SPECIAL AMIGA 1200 PREVIEW—p. 30

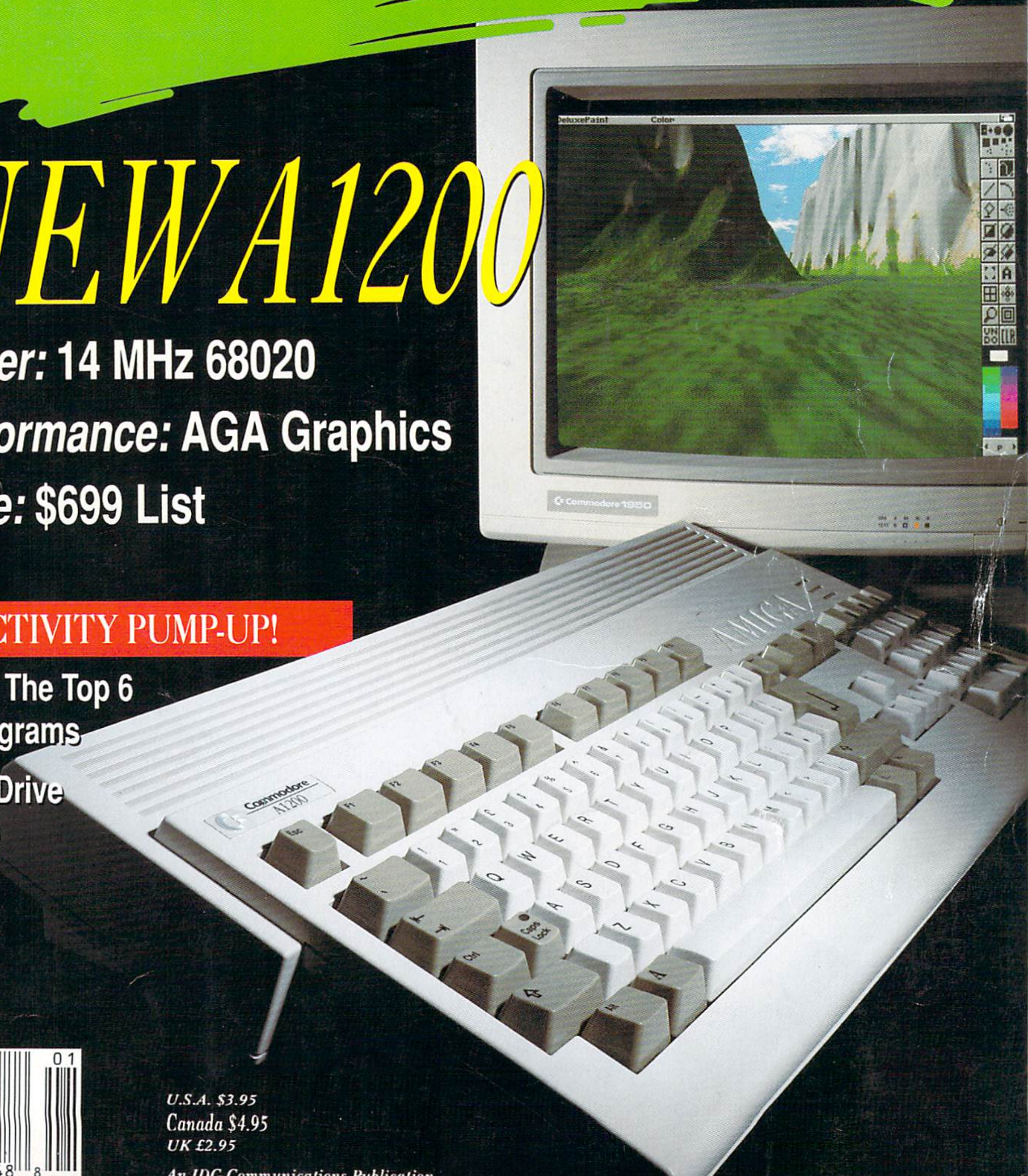
TOP 10 PD PICKS —p.53

January 1993

AMIGA WORLD

The NEW A1200

- Power: 14 MHz 68020
- Performance: AGA Graphics
- Price: $699 List



PRODUCTIVITY PUMP-UP!

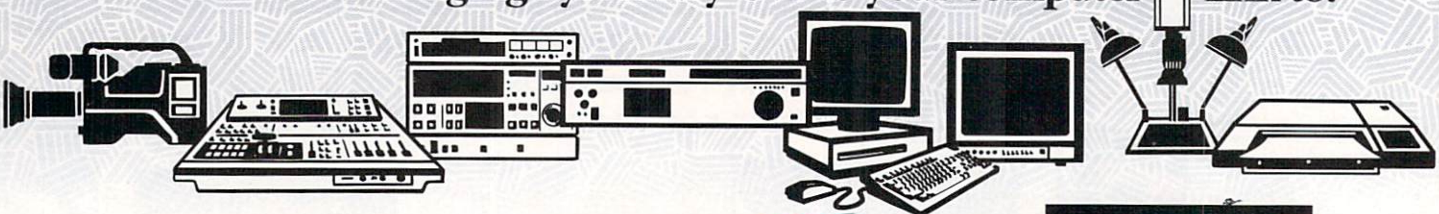
- Tips on The Top 6 WP Programs
- 7 Hard-Drive Helpers

U.S.A. $3.95
Canada $4.95
UK £2.95

An IDG Communications Publication

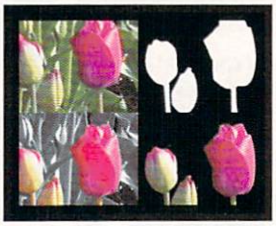
Missing Link Found

The IV24™ Video Imaging System by GVP is your computer link to:



You have ***only*** 1 video slot in your Amiga®. ***Only*** GVP's IV24 makes sure you take maximum advantage of it. No other multi-function video enhancement peripheral links your Amiga to more video equipment, multi-media and other devices, boards and programs than GVP's IV24.





▲ Desktop Darkroom

Check out these features:

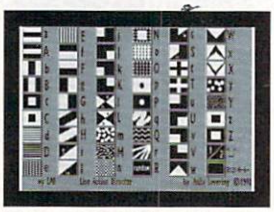
★ Separate Composite and RGB Video Genlocks ★ 1.5MB, 24-bit, 16.8 Million Color Frame Buffer ★ Realtime Framegrabber/Digitizer ★ Flicker-Eliminator (de-interlaced video) ★ RGB, Composite, S-VHS and optional Component (YUV) Format Compatibility with the VIU ★ Picture-In-Picture (PIP) Video-Over-Application or Application-Over-Video Display ★ Digital and Analog Key Inputs.

GVP'S bundled software is your link to creative imaging. There's absolutely no limit to your creativity, imaging and fun with the full range of software included with your IV24: ***Desktop Darkroom***™ brings the photo shop to your desktop with filters, special effects and color separations capability from images captured by the IV24 and video camera, VCR, other video sources. Explore photography's future, today.

MyLAD™ **(My Live Action Director)** makes everyone a professional videographer with a 3 signal, 2-input switcher and 50 spectacular transitions.

New, enhanced *Macropaint-IV24*™ lets the artist in you truly express itself with 16.8 million color paint and image digitizing that shows your work in 24 bits — as you use it.

Plus, an easy-to-learn video titling system for your videos and multi-media presentations, as well as an introduction to the exciting world of 3-D modeling.



▼ MacroPaint IV24 ▲ MyLAD



IV24'S VIU:

Your link to more power and productivity from your current hardware

The heart of every IV24 is the Video Interface Unit (VIU) with fully adjustable, software controlled, multiple video format capability for complete versatility and flexibility when it comes to video production signal compatibility. Choose:

VIU-S (RGB Splitter): Composite, S-Video (Y/C) and RGB input sources; sync generation; signal line stabilization; both Composite and S-Video for video tape recording or standard monitor viewing; input for external digital or analog Composite key source for Chroma/Luminance keying.

VIU-CT (Component Transcoder): All the VIU-S features, plus RGB to Y/R-Y/B-Y and Y/R-Y/B-Y to RGB input and output conversions for Betacam/MII; VGA-style monitor passthrough.

What's your link to GVP's IV24? With the IV24, all the bundled software and your choice of VIUs, your links are endless.

"I found a link to creating great special effects on Nickelodeon's Nick Arcade..."

Karim Miteff Co., Producer, Nickelodeon Arcade, Bethea/Miteff Productions, Orlando, FL

"I created 24-bit files from graphics to keep their colors intact. These images were captured by the Quantel Paintbox® from the IV24's analog RGB output. The Paintbox generated background then captured by the IV24 via RGB. The most telling testament to the board's quality is that the IV24 received the best response of all the Amiga-related devices I have shown broadcast engineers."



Graphic Courtesy of Nickelodeon

"I found a link to corporate presentations"

Bill Evans, Corporate Communications Technician, Fabmet Corp., Garden Grove, CA

"I use the IV24 mainly as a 24 bit display device in an A3000. I scan in 24 bit images with an Epson® 24 bit scanner, and then network them to a Video Toaster®. The finished product is displayed in our training room on two 27" Mitsubishi® monitors I will also use the IV24 with a Polaroid® freeze frame unit."

"I found a link to great animations..."

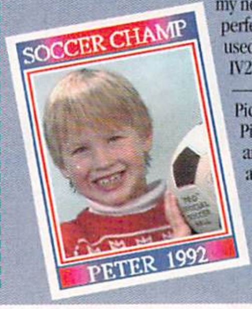
Tom Hutchison, Producer, Wild Orchid Graphics, City Rock, OR

"IV24 is what I've been waiting for. I use it with Imagine® software to produce animations for a local cable company. I really like being able to use one monitor and have a de-interlaced output that integrates into the system better than any other frame buffers I looked at.

"I found a link to a money-making opportunity..."

PAUL GILMAN, Entrepreneur (Scientist / Retired, Kodak), Personal Sports Cards, Penfield, NY

"I bought GVP's IV24 so my grandson and I can make and sell personalized baseball cards with Deluxe Paint®. The IV24 is the only product on the market with the RGB IN and OUT I needed to connect my video camera to a Kodak® thermal printer. It suits my needs perfectly. I've used many IV24 features — including Picture-In-Picture — and they're all superb."



GVP

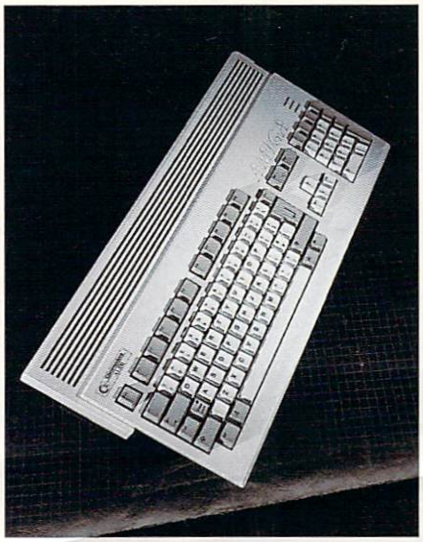
For more information or your nearest GVP Dealer, phone 215-337-8770 today.
For technical information call 215-354-9495

GREAT VALLEY PRODUCTS, INC. PHONE 215•337•8770
600 CLARK AVENUE KING OF PRUSSIA, PA 19406 U.S.A. FAX 215•337•9922

Circle 25 on Reader Service card.

CONTENTS

VOLUME 9, NUMBER 1, JANUARY 1993



*The A1200 (above), the new entry-level model in Commodore's next-generation line of AGA (Advanced Graphics Architecture) Amigas, was being prepped for launching as **AW** went to press. We grabbed one of the first units off the production line to bring you a special first-look preview.*

FEATURES

ARTICLES

COLUMNS

DEPARTMENTS

REVIEWS

GAMES

COVER PHOTOGRAPH BY EDWARD JUDICE

AMIGAWORLD

DALE STRANG, *Publisher*

DENNIS BRISSON, *Editor-in-Chief*
DANIEL SULLIVAN, *Executive Editor*
VINOY LAUGHNER, *Managing Editor*
BARBARA GEFVERT, *Senior Editor*
LOUIS R. WALLACE, *Senior Editor, Technology*
LINDA BARRETT LAFLAMME, *Review Editor*
EDITORIAL OFFICES: *1-800-441-4403; 1-603-924-0100*
FAX: 1-603-924-4066

GENE BRAWN, JOEL HAGEN, DAVID T. MCCLELLAN,
PETER OLAFSON, *Contributing Editors*

HOWARD G. HAPP, *Art Director*
LAURA JOHNSON, *Assistant Art Director*
ANN DILLON, *Designer*
ALANA KORDA, *Manufacturing Manager*

MICHAEL MCGOLDRICK, *Advertising Director*
BARBARA HOY, *Sales Representative*
HEATHER GUINARD, *Sales Representative*
MEREDITH BICKFORD, *Advertising Coordinator*
ADVERTISING: *1-800-441-4403; 1-603-924-0100*
FAX: 1-603-924-4066

GIORGIO SALUTI, *Associate Publisher, West Coast Sales*
533 Airport Blvd., Fourth Floor, Burlingame, CA 94010
1-415-375-7018; FAX: 1-415-375-7019

WENDIE HAINES MARRO, *Marketing Director*
LISA JAILLET, *Desktop Publishing Manager*

DEBORAH M. WALSH, *Circulation Manager; 1-603-924-0280*
MONICA LOUGEE, *Circulation Assistant; 1-603-924-0312*
Subscription Services: 1-800-827-0877 or 1-815-734-1109

TECHMEDIA PUBLISHING

DALE STRANG, *President*
SUSAN M. HANSHAW, *Director of Operations*
MARY MCCOLE, *President's Assistant; Customer Service Liaison*
TIM WALSH, *Ancillary Products Manager*
WILLIAM M. BOYER, *Director of Credit Sales & Collections*
KEMCO PUBLISHERS SERVICES, *Newsstand Circulation*

AmigaWorld (ISSN 0883-2390) is an independent journal not connected with Commodore Business Machines, Inc. *AmigaWorld* is published monthly by TechMedia Publishing, Inc., an IDG Company, 80 Elm St., Peterborough, NH 03458. U.S. subscription rate is $29.97, one year; $57.97, two years; $83.97, three years; Canada, $41.97 (includes GST), and Mexico $38.97. Foreign Surface $49.97. Foreign Airmail $84.97. U.S. funds drawn on U.S. bank. Prepayment is required on all foreign subscriptions. All foreign rates are one-year only. Second-class postage paid at Peterborough, NH, and at additional mailing offices. Phone: 603-924-0100. Entire contents copyright 1992 by TechMedia Publishing, Inc. No part of this publication may be printed or otherwise reproduced without written permission from the publisher. **Postmaster:** Send address changes to *AmigaWorld*, Subscription Services, PO Box 595, Mt. Morris, IL 61054-7901. Nationally distributed by Kable News Co. *AmigaWorld* makes every effort to ensure the accuracy of articles, listings and circuits published in the magazine. *AmigaWorld* assumes no responsibility for damages due to errors or omissions.

EDITOR'S DRAWER

Now that the elections are over, it's time for some straight talk in response to some startling allegations and misconceptions that persist in the Amiga market.

Debunking Some Myths

It's a new year and a time for new beginnings. But first, we need to take stock of the past and clear away any cobwebs of confusion in this market.

Myth: The Amiga computer is just a game machine.

Fact: Right, and Michael Jordan is just a good sneaker salesman. I've played some great games on the Amiga—Prince of Persia, Shadow of the Beast, Sword of Sodan—that more than justify the price of the machine. But, I also do other things with my Amiga. Early on in its career, the Amiga, with its superior video and sound, was saddled—and subsequently dismissed by many—with the game machine label. To group the Amiga in the same class as Nintendo and Sega ignores the significant accomplishments of developers and users who have demonstrated the Amiga's multifaceted potential. It's as well suited for productivity and creativity as it is for entertainment.

Myth: Only niche markets are available for the Amiga.

Fact: It's true that the Amiga is breaking new ground in specialized applications, but it's also being used for broad-based personal computing. Multimedia, graphics, and desktop video set the Amiga apart from the other systems, but this doesn't mean that it isn't used for databases and spreadsheets...in schools, in businesses, and in homes.

Myth: The European market is the same as the US market.

Fact: *Au contraire, mes amis!* That's like comparing baseball to cricket, or the dollar to the deutsche mark. Remember that Commodore is an international company with interests throughout the world. In the past, it has developed products specifically for foreign markets, with no intention of introducing them to US shores. The Amiga's dominance in Europe does not easily translate into success in the States. What moves in Marseilles may not necessarily play in Peoria.

Myth: All Amiga users suffer from IBM/Mac envy.

Fact: If Freud were alive today (and he'd be an Amiga user, I'm sure) he might tell us that this represents the unconscious truth more than we care to admit. IBM- and Apple-bashing are still too prevalent in this market. The "us-and-them" attitude stems from an inferiority complex that Amiga users have developed defending their computers. We spend too much time worrying whether one platform may be cheaper, faster, or have better support. We should be mainly concerned with whether we're getting the job done efficiently and effectively.

Myth: There are no first-time users in the Amiga market.

Fact: Buying a computer today is like visiting a library. The choices are numerous, and you encounter more numbers than in the Dewey Decimal System. This market has its share of professionals, and can lay claim to some of the most technically sophisticated users in the industry. Still, the Amiga, with multitasking, high-quality graphics, and sound capability—all for a reasonable price—is the choice computer for many applications, and is especially appealing to newcomers.

Myth: The only reason users buy an Amiga is the Video Toaster.

Fact: This allegation must have been perpetuated by Commodore-bashers who eventually went on to work in political campaigns. Sure, the Toaster is a breakthrough in creating a video-effects studio on your Amiga, but it certainly isn't the Amiga's *raison d'être.* Developers have helped to refocus and exploit the potential of the Amiga's role as the leading player at graphics, sound, and animation. Without third-party companies supporting Commodore, it would be hard for the Amiga to exist. The Toaster is one of the good things that has happened to the Amiga, but not the only good thing.

Myth: *AmigaWorld* is written only for professional graphics and video types.

Fact: *AW* is for not only the high-end videographer, but also the home computer user. I'm not satisfied with a user base of all gamesters...or all desktop videographers. A mix of users with varied interests will push this market. One of the formidable tasks confronting *AW* is to balance the specialities of the Amiga with broader system coverage. We want a multipurpose magazine for a multipurpose machine.

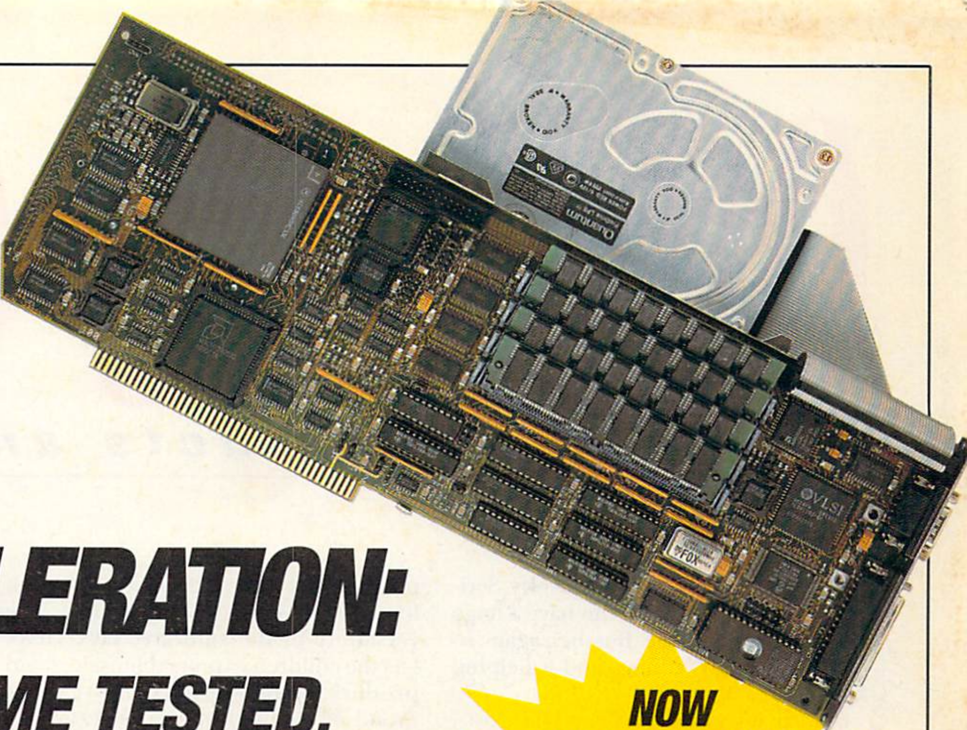
Myth: Commodore will rest on its laurels and let users and third-party developers carry the market.

Fact: Like Woody Allen, Commodore has an image problem. While it's not my function to serve as a male cheerleader for this market, I will give credit where credit's due...and now is one of those times. With Commodore's introduction of the new line of AGA machines (see this issue's cover story), we may be entering an era of unbridled optimism unlike anything this market has witnessed before. Hang on for a wild and exciting ride.

Dennis Brisson

Dennis Brisson
Editor-in-Chief

FOR THE AMIGA® 2000 SERIES



GVP ACCELERATION:

THE TIME TESTED, USER-PROVEN, BEST SOLUTION

NOW SHIPPING 33Mhz A2000 G-FORCE™ 040 COMBO

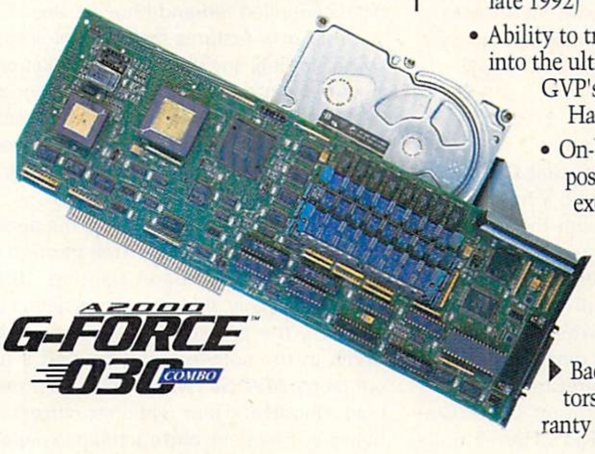
Only the GVP Family of Combo Accelerators are Packed, Stacked and Backed with more of what you want Most!

Don't get stuck. Don't overpay. Don't buy half a solution. Don't take chances. When you're shopping for an accelerator, there is only one thing you should do...

Choose from GVP's family of G-FORCE 040 and 030-based Combo Accelerator boards.

WHY? Because only GVP:

- Has a proven 5 year history of the best product performance and support.
- Gives you the choice of state-of-the-art 68030 or 68040 CPU Power at blazing speeds of 25, 33, 40 or 50MHZ. No matter what your budget or speed requirements, GVP has the right solution for you.
- Provides unsurpassed multi-functionality through superior design integration giving ALL GVP accelerator users:
  - On-board SCSI-II compatible DMA Hard Drive Controller
  - Up to 16MB of high speed 32 Bit-Wide Memory expansion (up to 64MB with 16MB SIMMS available late 1992)
  - Ability to transform your accelerator into the ultimate hardcard with GVP's new improved snap on Hard Disk mount kit
  - On-board future expansion possibilities with the GVP exclusive 32-Bit expansion bus (including GVP's EGS 110/24). This feature alone literally obsoletes ALL other accelerator products.
- Backs ALL GVP accelerators with a full 2-year warranty and upgrade program.



A2000 G-FORCE™ 030 COMBO

Choose GVP's newest, fastest and feature filled accelerator... the A2000 G-FORCE040

It's the fastest accelerator — bar none:

- 68040 CPU running at up to a blazing 33MHZ clockspeed, outperforms even high end workstations costing thousands more.

It's the most highly integrated — bar none:

- High performance onboard SCSI/SCSI II compatible hard drive controller.
- On-board serial port with speeds up to 625 Kbps and two 16 byte hardware buffers (1 read/ 1 write) to prevent data loss. Ideal for adding additional modems, printers etc.
- On-board user configurable parallel port for Amiga/PC compatibility.
- Future expansion via GVP's exclusive GVP compatible 32-Bit expansion bus.

CALL YOUR GVP DEALER AND ORDER A GVP G-FORCE 030 or G-FORCE 040 TODAY!

GVP

GREAT VALLEY PRODUCTS, INC.
600 CLARK AVENUE
KING OF PRUSSIA, PA 19406
U.S.A.

PHONE 215•337•8770
FAX 215•337•9922

Perfect Holiday Gift Ideas

For more information or your nearest GVP Dealer, call 215•337•8770. Dealer inquiries welcome. For technical support call 215•354•9495.

OVERSCAN

News, New Products and Networks

Art for Kids' Sake

LOS ANGELES—Abuse. Poverty. Serious illness. These things can have a huge impact on a child's life. But then again, so can opportunity, caring, and a helping hand.

And that's why Music For Life exists. This nonprofit, volunteer organization gives troubled kids a chance to express themselves creatively and strengthen their self esteem. The means to these noble ends are Amiga music, graphics, and animation workshops.

"I am convinced [the Amiga] is a tremendously powerful tool that can positively impact the lives of the young people we are serving," states program founder and director Vinnie Tieto. The versatility of the software, says Tieto, lets the children express themselves and produce quality results they can be proud of—without requiring extensive training.

The ultimate goal of the project is an established "classroom" with many Amigas and plenty of creativity products. The volunteers also hope for mobile capabilities that would let them take a fairly comprehensive setup to homeless shelters, homes for abused kids, hospitals, and schools and day-care centers in low-income neighborhoods.

Several Amiga developers deserve thanks: The Blue Ribbon SoundWorks, Oxxi, Saddleback Graphics, ASDG, Gold Disk, and New Horizons have all chipped in with software to further the cause. "They really want to make a difference with their products and are showing it by making donations," says Tieto. More is needed, though, so consider volunteering your Amiga skills. And consider donating your used computer equipment to Music For Life, 12228 Venice Blvd., Suite 161, Los Angeles, CA 90066, 310/842-7835.

—Barbara Gefvert

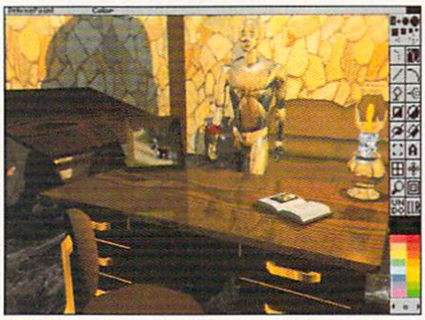
Update! Update!

Longing to use good-ol' DPaint on your new AGA-equipped Amiga? Long no longer. ***Electronic Arts*** has released a DeluxePaint IV upgrade designed specifically for the chip set featured on the Amiga 4000 and 1200.

DeluxePaint-AGA takes full advantage of all the new display modes, including 256-color and enhanced-HAM8 displays. Among other changes are improvements to color support (which has been extended to a full 24-bit palette), 2.0-style screen requesters, and support for larger blitter operations. DPaint-AGA can also read 24-bit files and convert them to whatever display mode you are using, even though the program does not display or write 24-bit data.

Other changes serve as fixes to minor bugs discovered in the earlier release of DPaint IV.5. And while the program is targeted at AGA machines, it also supports Super-Hires and Productivity modes for 2.0/ECS machines.

Those who already own DeluxePaint IV can trade up for $39 through Electronic Arts. DPaint-AGA will also be available in stores for $179. (RS# 110.)



This image, converted from its original 24-bit format through ADPro, appears on this DPaint display in 752×480 HAM8 format.

There's news on the 3-D front from both Octree Software, maker of the Caligari line, and duBois Animation, creator of Animatrix Modeler.

Octree has announced that **Caligari24** ($399) will replace Caligari2. You get more than just an extra digit with the new software—you also get hierarchical animation, organic deformation, 32-bit color, IFF textures, and more. The program outputs up to 736×482 (NTSC) or 736×575 (PAL), and supports a number of display devices, including GVP's IV24, Impulse's FireCracker, ACS's Harlequin, Centaur's OpalVision, Digital Creations' DCTV, and Black Belt's HAM-E. Caligari24 reads and writes Videoscape and LightWave 3D formats. It also reads Sculpt 3D, Imagine, and AutoCAD DXF 3D object formats. Further, it supports Rendition, IFF, and DCTV images for texture mapping. Caligari24 requires at least 2MB of RAM. (RS# 119.)

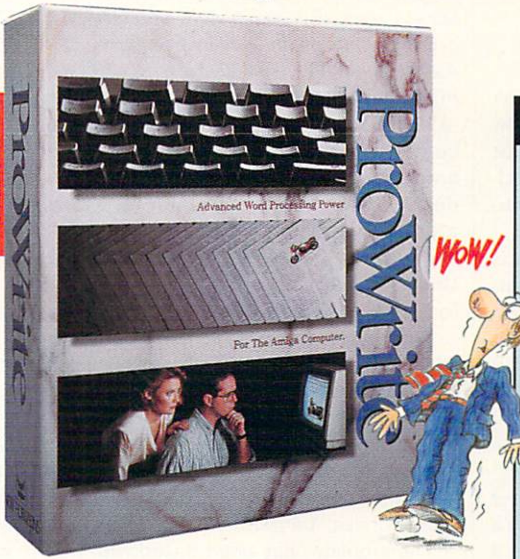
Animatrix Modeler's latest version, **1.2**, promises an easier, more accessible interface and compatibility with both LightWave and WaveFront object files. It also provides two new stereoscopic viewing options that you can take advantage of with either Haitex Resources' X-Specs 3-D stereo-vision gogs or the supplied red-and-blue glasses.

Other new features include real-time rotation, scaling, and translation, in addition to single- and grouped-point editing, edge and face subdivision, point joining, and more. The program is $139.95, but current owners can upgrade though ***duBois Animation*** for free. (RS# 111.)

If you've been trying to locate the genealogy program **Your Family Tree** through MicroMaster, you've been barking up the wrong company. After the firm's recent dissolution, the project manager purchased rights to the software and formed a new company, ***MVP Software***. MVP will provide tech support and information to current and future YFT owners, and continue to develop the product. ►

To locate the vendors of products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

ProWrite® 3.3
The Best Just Keeps Getting Better



$99.95

ProWrite is the best selling word processor for the Amiga®, and for good reason. High performance. Ease-of-use. Constant updates and enhancements. And now a new low price!

New Features

ProWrite 3.3 gives you more power than ever before. More powerful graphic handling, including automatic text-wrap. Print preview. Password protection for your documents. The ability to name and find pictures in long documents. Full clipboard support, for seamless exchange of text and pictures with other programs. And ***HotLinks*** **>>**™ support, giving you total integration of ProWrite with other HotLinks-capable programs!

Proven Performance

Combine this with ProWrite's already formidable feature set, and you have the most powerful word processor for the Amiga. Features like multiple fonts and pictures. A spelling checker with over 100,000 dictionary words. A thesaurus with over 300,000 cross-references. Outline font support. Jaggie-free printing, for high-quality printing on dot-matrix printers. PostScript printing. Macros and AREXX support for power users. Mail merge, for form letters. And multiple columns, including side-by-side columns for writing audio/video scripts—a ProWrite exclusive! And the list goes on!

And of course, ProWrite 3.3 retains the speed and ease-of-use that has made it famous with thousands of Amiga users world-wide.

New Low Price!

Even with all this power, ProWrite is more affordable than ever before—because ProWrite is available now for only $99.95! So you no longer have a reason not to treat yourself to the best!

See for yourself what makes ProWrite the most popular word processor for the Amiga. Visit your local Amiga dealer and put the power of ProWrite to work for you today!



ProWrite is a registered trademark of New Horizons Software, Inc. HotLinks is a trademark of Soft-Logik Publishing Corp. Amiga is a registered trademark of Commodore-Amiga, Inc.

Features

- "What you see is what you get" display.
- Multiple fonts, sizes, styles, and colors.
- Outline font support.
- Insert IFF and HAM pictures in your documents.
  - Automatically wrap text around pictures.
  - Multiple columns, with snaking or side-by-side text flow.
- Spelling checker with 100,000 word dictionary.
- Thesaurus with 300,000 cross-references.
- Full system clipboard support.
- HotLinksTM support.
- Undo and Redo command.
- Mail merge.
- AREXX port.
- Macros, when used with AREXX.
- Name and search for pictures in a document.
- Speaking capability, to read back document contents.
- Separate odd and even page headers and footers.
- Paragraph sorting.
- Automatic page numbering, with five different page number styles.
- Insert current date and time, with five different date formats and two time formats.
- Word count and readability level calculation.
- Up to 10 documents open at the same time.
- Document password protection.
- User-set document comments.
- Horizontal and/or vertical document rulers, for precise positioning.
- Custom page sizes.
- Print preview.
- PostScript printing, in black & white or color.
- High-quality graphics printing for jaggie-free output.
- Print NLQ text and graphics at the same time.
- Complete printer control, including sideways printing and 4,096 color printing.
- Automatic timed saves and backups.
- Import and export Professional Page text files.
- Comprehensive keyboard commands.
- Easy to use "3-D" user interface look.
- Fully customizable.
- Full support for Kickstart 2.0.
- Requires Kickstart 1.2 or later, one megabyte of memory, and two disk drives.

NEW HORIZONS

New Horizons Software, Inc. • 206 Wild Basin Road, Suite 109 • Austin, Texas 78746 • (512) 328-6650

Circle 65 on Reader Service card.

Now available is YFT 2.2, which runs under Workbench 2. MVP is also working on a YFT utility package, slated to provide GEDCOM import and export, tiny tafel, additional reports, and other functions. (RS# 112.)

Credit Card RAM

Just because your A600 is small doesn't mean its RAM capacity should be. Now ***New Media*** gives you up to 4MB more fast RAM with its **PSRAM IC Card.** The credit-card size auto-config expander fits into the computer's PCMCIA slot.

According to New Media, products competing for that slot are SRAM boards that cost as much as $250 per meg and are limited to 2MB. Populated with 4MB New Media's card costs $299; with 2MB it runs $189. (RS# 125.)

Out And Out Tool

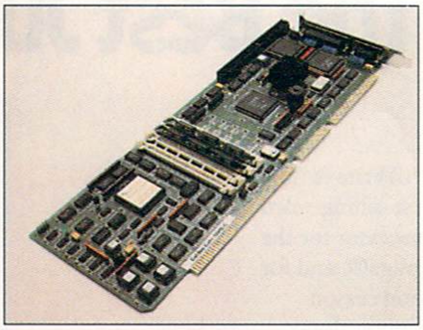
Thinking about doing some work under the hood of your Amiga? You'll need both a chip puller and a torx screwdriver—or you'll need an **Xtractor+** ($12.95, ***Better Concepts***). Costing about the same as one of the conventional tools, XTractor+ is able to pull PLCC and DIP chips and release the torx screws from your case and/or motherboard. (RS# 117.)

More MS-DOS on Amiga

Vortex grants further entry into the world of IBM products—via Amiga. Now, its **Golden Gate 486SLC** ($1099) lets you access such ISA expanders as EGA/VGA graphics boards and LAN cards from your A2000 or A3000. The 25 MHz 80486 SLC PC/AT emulator provides RAM capacity up to 16MB (2MB are included) and an IDE controller capable of driving one PC/AT hard disk with an AmigaDOS partition under MS-DOS. An optional controller allows access to three (one internal, two external) high-density (2.88MB) floppy-disk drives. Under AmigaDOS, you can read, write, and format up to two of these floppies.

The system takes advantage of Amiga multitasking, runs under Kickstart 1.3 and 2, and promises peaceful coexistence with accelerators, flickerFixers, and internal Amiga hard drives. It also supports Amiga floppy drives in MS-DOS formats 360K, 720K, and for those who have high-density Amiga floppy drives, 1.44MB.

The emulator has been tested with MS-DOS versions 3.2 to 5.0; Windows 3.0 and 3.1 operate in the Protected/Enhanced 386 mode. Vortex says the Golden Gate 486SLC CPU is compatible with the 486SX command set. The company also says that because of its 32-bit internal/16-bit external data bus, 1K cache chip, and 25 MHz clock frequency, the device is up to 2.4 times faster than a 25 MHz 386SX processor.



IBM 486 compatibility comes to your Amiga via Vortex of Germany.

Whether you choose Vortex's 486 emulator or its Golden Gate 386SX, you should also know about **Monitor Master** ($128). A small, external box, Monitor Master lets you connect both an EGA/VGA graphics card and the Amiga's video output to a single multisync monitor. It provides full VGA video output under MS-DOS to the standard 1084 Amiga monitor and several others, including Toshiba T3100, Hercules, and Olivetti terminals. (RS# 114.)



ON-LINE SCAN

By Tim Walsh

These days, the Amiga 4000 makes for almost as much conversation on the nets as the A1000 did when it was first released. When the folks at BIX gathered together Commodore hardware and software engineers for a mid-October conference concerning the machine, they didn't have to ask twice for attendees. Mere mention of the event whipped the area's regulars into a frenzy more analogous to a Madonna book signing session than a computer discussion.

Forget the live political debates of October. We're talking real-time excitement here. BIX saw fit to give everyone a chance to thank the machine's makers. If you asked any Amiga enthusiast on BIX if they'd miss such an event, their reaction time to register a resounding "Nope" would leave Al Gore envious.

One-Stop Shop Talk

Don't fret if you missed the conference. A quick jaunt to the Amiga area on BIX will yield you a4000cbix.lha, the recorded transcript. While Amiga users on BIX are indebted to the personable crew from Commodore for sharing their inside commentary on the A4000, at this writing the computer is not yet well represented on any nets in terms of utility programs.

Portal's all-new AGA Graphics library, however, attracted two listings right off the bat. The first, A2NTSC11.LHA, is one file containing four programs for the A4000 and some AmigaDOS 2.0x-equipped Amigas. These include AmigaToNTSC and AmigaToPAL 1.1 which, as their names imply, preserve NTSC and PAL mode (respectively), even after loading a custom PAL screen in NTSC mode—or vice-versa.

The other programs are strictly on the A4000 side of the ledger. Aptly named AmigaToDoubleNTSC and AmigaToDoublePAL 1.1, they perform much the same functions as the first two programs, but require Kickstart 3.0 and the AGA chip set to do so.

Long-time Amiga fixture Steve Tibbett provides the second program in Portal's AGA library, DOUBLEX.LHA. Designed to complement Mode Promotion, DoubleX scan-doubles screens that Mode Promotion does not. With DoubleX in your A4000's startup-sequence, all your screens can be scan-doubled, including those created with such graphic applications as ASDG's ADPro and EA's DeluxePaint.

A quick scan for A4000 files on either GEnie or CompuServe won't exactly fill your hard disk. There are a lot of A4000 scanned pictures on GEnie, but just one A4000 program—an AIBB module.

CompuServe, unfortunately, did not have even a sole A4000 utility or application as of this writing. But as with the other nets, there's no shortage of small-talk about the machine.

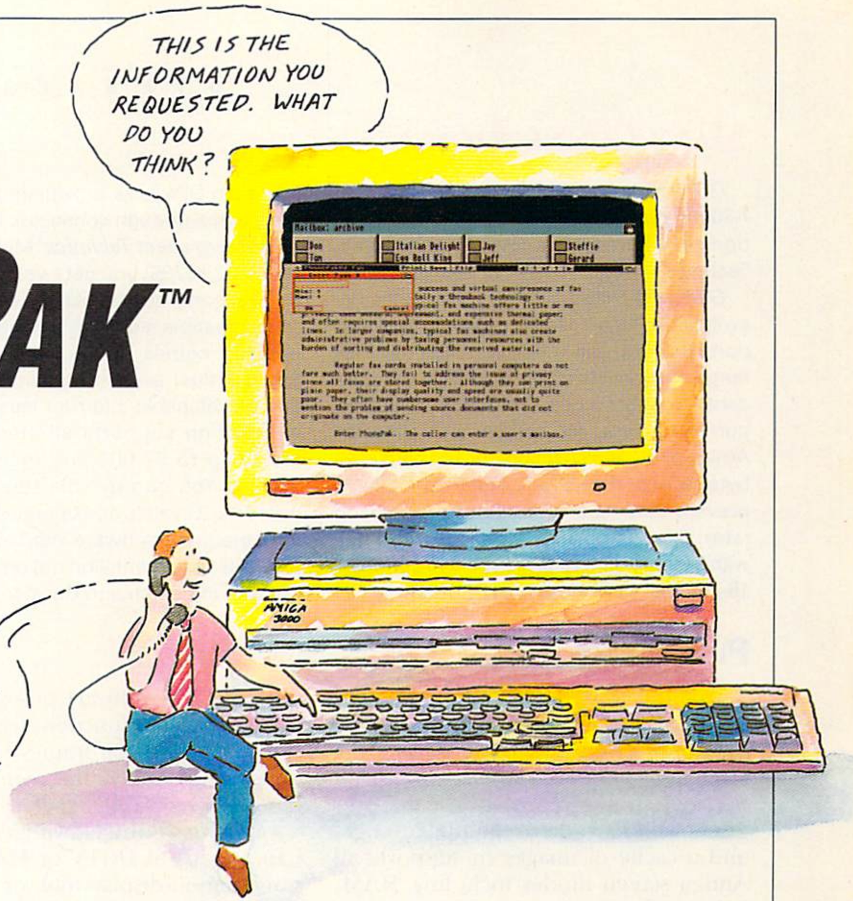
Odds and Ends

AGA technology makes for ►

Now, your Amiga® 2000/3000 is a Computer, Fax Machine, VoiceMail System, and Answering Machine all at once!

GVP's NEW

PHONEPAK™





PHONEPAK'S EXCLUSIVE VFX™ TECHNOLOGY TAKES FAX AND VOICE MAIL INTO THE NEXT CENTURY!

You know what a fax machine IS. You know what an answering machine DOES. You know how voice mail WORKS.

Now imagine all that technology working together as a single comprehensive information system all on one board.

And that's just the beginning when it comes to what GVP's new PhonePak can do for your A2000/3000!

PhonePak Handles All Calls

With a PhonePak VFX system installed on each of your phone lines you can:

- Receive faxes and store them on your Amiga's hard disk for on-screen viewing and/or plain paper printing at your convenience.
- Use PhonePak's advanced digital technology to record and playback voice messages.
- Receive VFX™ messages combining voice and fax, from virtually any standard phone/fax machine.
- View a fax onscreen and listen to a voice message about that fax at the same time — a GVP multimedia breakthrough!
- Send faxes to one or more numbers immediately, or via PhonePak's built-in scheduler.
- Record and play your own voice messages in standard IFF audio format using a fully configurable system of private user mailboxes.
- Create customized databases for all your names, addresses, and telephone numbers.
- Use PhonePak's exclusive Operator™ script language or AREXX to control all dialing functions.

And because PhonePak uses GVP's custom DMA chip technology for multitasking, you can keep right on working, even while PhonePak is taking calls.

PhonePak Saves Time and Money

With PhonePak, you get a powerful, yet affordable, fax and voice messaging system that:

- Can be learned in no time with the simple, step-by-step user's manual.
- Completely eliminates costly and unwieldy thermal paper.
- Offers scaled, nonscaled, and inverted viewing of faxes in both HiRes (640x400) or Workbench 2.0's SuperHiRes (1280x400) mode.
- Intelligently transfers incoming calls over Centrex™ or other compatible phone networks.
- Lets the caller decide whether to leave a message or speak with the called party.

And, you get something no other fax machine or computerized fax product can offer — privacy for every fax received.

PhonePak Helps You Work Smarter

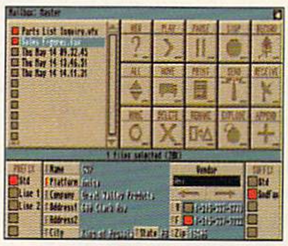
As you can see, anything fax machines, answering machines, and voicemail systems can do, PhonePak can do.

Plus, PhonePak is the only technology that gives you fax and voice information combined.

Whether you have a single phone line at home, or multiple lines in the office, once you install PhonePak, you'll wonder how you ever got along without it.

Perfect Holiday Gift Idea

PHONEPAK™ VFX



Main PhonePak Control Panel

For more information on what GVP's PhonePak can do for you, call (215)337-8770 today.

GVP
GREAT VALLEY PRODUCTS
600 CLARK AVENUE
KING OF PRUSSIA, PA 19406
U.S.A.
PHONE 215•337•8770
FAX 215•337•9922

PhonePak requires 2MB RAM and a hard drive, and is FCC certified for use in the United States.

Circle 1 on Reader Service card.

MANY CONNECTIONS

Got more peripherals than your A2000 or A3000 knows what to do with? Two solutions are here—from GVP and Pre'spect Technics.

***GVP's* I/O Extender** features two software-switchable, high-speed multifunctional serial ports that you can mix and match for a full range of connections while leaving the standard Amiga ports free. A bidirectional parallel port, which you can configure as either an Amiga or PC, is also on board. The card's 16-byte serial port hardware buffers promise to prevent data loss even at very high baud rates. Plus, an optional MIDI expansion box with a rack-mount kit gives you two complete 16-channel MIDI buses, each of which has five 5-pin DIN jacks providing one in, three outs, and a through connector. (RS# 121.)

With ***Pre'spect Technics'* MultiFaceCard**, or MFC 2, ($295) you get two serial and two parallel ports, all of which are external, Amiga-compatible, and able to work simultaneously. It comes with a parallel interface timer, a dual asynch receiver/transmitter, and a switchable interrupt level. The serial connection supports all standard baud rates, up to 57,600 and including MIDI 31,250. You can disable the half-length board via a switch, and operate its functions via a graphical software interface. Pre'spect provides documentation not only in English, but also in French and German. (RS# 124.)



OVERHEARD

Both the House and the Senate have passed The Software Copyright Protection Bill, boosting software piracy from misdemeanor to felony status. The bill grants those who willfully copy software for commercial advantage or private financial gain eligibility for five-year prison terms and fines up to $250,000. The Software Publishers' Association, which made passage of the bill a priority, now awaits President Bush's signature.

PLAY RIGHT

Would you like to see your animation run in real time—before you lay it down on tape? Then check out **AsimVTR** ($89, ***Asimware Innovations***). You need no single-frame recorder, just the program, your hard-drive equipped Amiga, and a cache of images (it supports all Amiga screen modes including HAM, EHB, and overscan).

You can record an animation to your hard drive, and then use AsimVTR's commands to manipulate the frames. Playback mode features an on-screen VCR-like control panel that provides variable frame rates, pausing, and single stepping. The software promises frame-accurate editing functions and playback speeds of up to 60 frames per second, depending upon your screen mode and hard-drive controller speed.

Combine AsimVTR with a display enhancer such as DCTV or HAM-E for a presentation-display tool, or use it as a dedicated storage option for your 3-D work by linking it with your renderer via ARexx. (RS# 122.)

Along the same lines, **ANIM Workshop** (***Axiom Software***) can create an animation from a list of RGB files, change an ANIM's format (size, resolution, and color palette), and more. ANIM Workshop lets you assemble and view full-color animations created with NewTek's LightWave 3D—without using expensive video hardware.

The software even works with animbrushes, so you can convert them from HAM to 16-color, for instance, or change resolutions, or image process them in ASDG's ADPro. And its ARexx interface enables the program to work jointly with ADPro for even more processing and editing power. Those skilled with ARexx can use the language to customize its processing tools. (RS# 118.) ►

great reading, but the new machine isn't in the hands of too many network users yet. Every other type of Amiga is, however, so a venture to Library 4 in the Amiga area on GEnie is in order. That's where you'll find file number 17211, listed as OPLAY-110.LHA, the latest version of the Oplay sound player. With no Intuition interface, you need at least some knowledge of the Shell to use this slick sound-playing utility. Oplay supports some of the more popular sound formats created on the Mac, PC, NeXT, and Sun systems.

Library 4 also houses file number 17184, under the name AUTOCLI230.LHA. Fans of the original AutoCLI from Nic Wilson will thoroughly enjoy this latest update. It is the Amiga-software equivalent of the Swiss army knife, with a popular mouse accelerator, window shuffler, function-key programmer, and more.

SYSINF.LHA is sufficient reason for any Amiga users with an accelerated machine to pay a visit to CompuServe. Far and away the best version of the acclaimed SysInfo (3.01) resides there in Library 15 of the AmigaUser area. In addition to providing the familiar RAM and performance tests, this gem from the prolific programmer Nic Wilson also lets you monitor device drivers, libraries, resources, ports, and tasks.

No self-respecting Amiga user would be caught without at least one multipurpose, time-saving disk utility such as DiskMaster (Progressive Peripherals) or Directory Opus (INOVAtronics). But in this tough economy, the price of admission for those utilities might be better spent on two months of lunch money for a couple of kids. A low-cost alternative, MEGAD2.LHA, resides in Library 9 of the AmigaUser area on CompuServe. Touted as "better than Opus," MegaD 2.0's true claim to fame is the ability to open multiple volumes as sources and destinations for disk operations. Indeed, its busy, but well thought-out Intuition interface is packed with as many copying, formatting, and general file-manipulation options as you're likely to find on any commercial equivalent.

There's a look at fast-moving files on the nets. Until next time, here's how to start your own research:

BIX
General Videotext Corp.
1030 Massachusetts Ave.
Cambridge, MA 02138
800/227-2983
617/354-4137

CompuServe
PO Box 20212
5000 Arlington Center Blvd.
Columbus, OH 43220
614/457-0802
800/848-8199

GEnie
401 North Washington St.
Rockville, MD 20850
800/638-9636

Portal Communications
20863 Stevens Creek Blvd., Suite #200
Cupertino, CA 95014
408/973-9111

GVP Enters the SOUND ZONE

Hardware now Enhanced!
★ NEW: Software Programmable VolumeControl
★ NEW: Software Controllable Filter

With the most powerful, comprehensive 8-bit Digital Sound Package to ever orchestrate an Amiga

Digital Sound Studio

The Affordable Answer to Your Audio Dreams

Record, Edit, Compose . . .

With a high-quality stereo sound sampler, A fast, powerful, easy-to-use sound editor, And a self-contained 4-track sequencer.

For all the sound effects and music you could ever imagine.

▶ **Record** sound samples from any source, including voices, noise, and pre-recorded instruments, to create your own instruments and effects.

▶ **Edit** sounds quickly in real time. Add effects like reverb and echo, run sounds backward, alter wave forms, cut and paste sound segments, create loops, eliminate pops and scratches.

▶ **Compose** easily using the DSS 4-track sequencer and your Amiga or MIDI keyboard. Draw from up to 31 instruments at a time, in up to four octaves with 8 different variable effects. Mix and modify sounds in real time as you compose, through direct interface with the sound editor.

DSS Stretches the outer limits of 8-bit sound

- Create your own 4-track, self-playing musical compositions.
- Make soundtracks for home video, animation or visual presentations complete with voice-over, sound effects and music.
- Analyze voice patterns and stereo separation.
- Analyze graphic equalization of real-time sound.
- Remove "pops" from old phonograph recordings.
- Create custom instruments and sound effects by collecting and/or modifying pre-recorded instruments, voice, or sounds from any source, and use them in your own compositions.
- Save your sound and music to disk or send it out via modem for replay on any Amiga.

Check out these unparalleled features

✓ AmigaDOS 2.0 compatible; written in assembly language.

✓ Multi-tasking operation.

✓ 68020 and 68030 compatible.

✓ Comprehensive tutorial manual helps even beginners get started right away.

✓ Intuition-based graphic interface makes operation easy.

✓ MIDI-in capability.

✓ Direct interface between sequencer and editor.

✓ Hold 31 sound samples in memory at once – all shown on screen so they are easy to manipulate.

✓ Effects and processing capabilities include echo, mix, filter, re-sample, sound data inversion, playing sounds backwards, loops, fade-in/fade-out and more.

✓ Manipulate sound samples in real time, as you listen.

✓ Create sampled instruments with 1, 3 and 5 octaves.

✓ HIFI recording for highest quality playback.

✓ Controls for faster/slower playback and filtering high frequencies during playback.

✓ Load and save samples, songs and instruments in multiple formats.

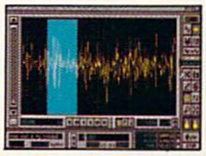


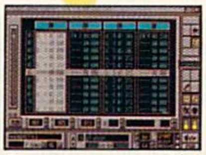


✓ Multiple effects for each note.

✓ Stereo and monophonic operation. Also convert mono to stereo or separate stereo.

✓ Auto-playing music modules.





✓ Real-time oscilloscope and spectrum analysis.

✓ Real-time reverberation.

✓ Graphic editing of wave forms through easy-to-use functions, including zoom in/out and precision controls for position, frequency and amplitude.

✓ Draw sound waves freehand using the mouse.

✓ Direct editing of individual sample numeric values.

✓ Maximum recording speed of 51,000 samples/second (38,908 samples/second in stereo).

✓ Savable Preference settings.

✓ Saves in IFF, SONIX or RAW formats.

✓ Compatible with SoundTracker, NoiseTracker and SoundFX modules.

DSS 8
DIGITAL SOUND STUDIO



GVP

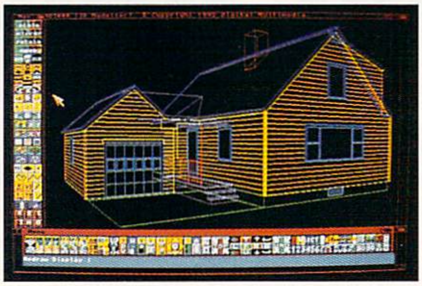
GREAT VALLEY PRODUCTS INC.
600 Clark Avenue, King of Prussia, PA 19406
For more information or your nearest GVP dealer, call today. Dealer inquiries welcome.
Tel. (215) 337-8770 • FAX (215) 337-9922

Perfect Holiday Gift Idea

Circle 1 on Reader Service card.

From Two to Three

High-end 2-D drafting and 3-D modeling come together in **GFX-CAD 3000** ($649). The package, from ***Grafx Computing***, includes the long-awaited XCAD 3000 (which incorporates the latest versions of XCAD 2D and XCAD 3D) from the British company AVT. In addition, you get Grafx's own X-Shell and Z-Shell interfaces to make working with the CAD applications easier. The bundle also includes stateside technical support and a six-month subscription to the XPress newsletter, which is dedicated to Amiga CAD.



More than a program, GFX-CAD 3000 is a multipart 2-D/3-D design kit.

The new XCAD 3D software can read files you drafted in XCAD 2D, and then save those images in Imagine/Turbo format for rendering in Impulse's software. If your system has 2MB of chip RAM, you can run the two XCAD programs concurrently with Imagine or Turbo, moving elements between the trio easily.

Grafx offers several upgrade paths for owners of previous XCAD versions. Contact the firm for details. (RS# 126.)

Bright Here For Graphics

Supporting all Amiga graphics modes including 24-bit, 256-color, and 8-bit HAM, ***Digital Creations***' new **Brilliance** hopes to set a new standard in Amiga paint and animation software. It promises optimal performance and speed on all Amiga models. According to Digital Creations, most Brilliance operations run faster on a 68000-based Amiga than comparable operations of competing programs run on a 68030 machine.

But speed isn't all that Brilliance promises. For $249 you also get dynamic animation capabilities and "real-world" airbrushing. A Gradient mode lets you define eight separate gradient ranges of up to 64 colors each, and an Interpolate option chooses the best in-between colors from your palette automatically. Lots of features and abilities come in multiples: You get multiple picture and animation buffers, brushes, animbrushes, and even multiple levels of Undo and Redo. (RS# 120.)

More Than Morphing

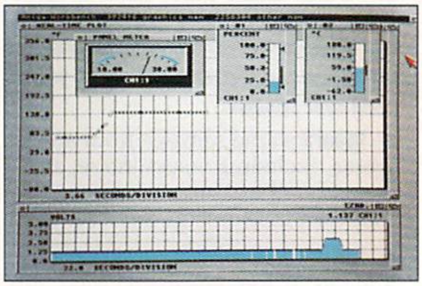
***GVP's* Cinemorph** software ($159) enables you to morph one image into another. **ImageFX** ($369) gives you that ability and more. Image-processing tools for color correction and manipulation, image analysis, image transformation, and photographic adjustments are all part of the package. The program's memory-management system lets you scan images to disk and manipulate them at high speeds, with low memory overhead (ImageFX requires 1/2MB of chip RAM and 3MB of fast RAM).

Because ImageFX is modular, you can add support for scanners, framegrabbers, printers, and display devices through external software "hooks." ARexx-literate folks can further customize the program, thanks to its support of the protocol. (RS# 123.)

Measure for Measure

Want to monitor the weather, conduct science projects, or set up a home-automation system? ***Boone Technologies***' new line of **ezAD** products will help. President Mark Boone says he's responding to a need for simple-to-install data-acquisition systems that work on any Amiga. "You don't need an engineering degree to install and use these products," he states.

The hardware plugs into your computer's second mouse port. It can measure temperature, humidity, pressure, light levels, and other parameters, and transfer the data directly into the computer to save you from entering it manually. The included software lets you display collected data and save it for later evaluation and for export into spreadsheets, databases, and other programs. An ARexx interface is provided for those who want to create custom data displays using an ARexx-compatible authoring program or a programming language.



ezAD's software can make a colorful display of your data.

Complete systems include analog-to-digital converters (eight- or ten-bit) and sensors with single or multiple inputs. Because the low-powered hardware is modular, you can add on when you need more capabilities. And adding on means plugging together, not wiring and soldering. (RS# 113.)

Hardware for Video

What runs off the Amiga's mouse port, costs $50, and is infrared all over? Interactive ***MicroSystems***' new **Mediaphile 2.0M Infrared Controller**!

Via the company's MediaEditor software (available separately), the controller works together with a number of products—including its own MediaPhile software, Gold Disk's Video Director, Future Video's system, and Sony's VBOX and VISCA controllers—for video editing and multimedia presentation. Plus, it lets you control NewTek's Video Toaster and Panasonic's WJMX switchers for A/B roll and special effects.

An ARexx interface allows further control over multimedia presentations through such ARexx-compatible software as AmigaVision, Scala, and Showmaker. Plus, a Programmer's Tool-kit helps you gain control over laser- and CD players, video and audio decks, camcorders, and so on from C- and BASIC-language programs. Complete infrared control systems including hardware and software start at $250 from Interactive. (RS# 115.)

Get in line now for ***Allen Avionics***' new line of delay lines. In addition to its original analog devices, the company offers new **Digital Delay Lines** in several configurations (dual-in-line, single-in-line, and surface-mount) to match any design requirements. The units are applicable to telecommunications, military, industrial, and video-product markets and, according to Allen Avionics, are "ideally suited to high-volume OEM applications," for which auto-insertable packages are provided. (RS# 116.)

Overscan is compiled by Barbara Gefvert, Linda Laflamme, and Tim Walsh. Send your news, new products, and network information to Overscan, *AmigaWorld* Editorial, 80 Elm St., Peterborough, NH 03458. ■

Introducing ImageFX™...
No professional art department should be without it

Only ImageFX gives your imagination total image processing freedom.

IMAGE FX™

Whatever visual medium you work in—photography, graphics, video, animation—ImageFX is the one tool you absolutely must own!



It's like having a professional art department at your fingertips.

ImageFX is faster, easier to use, more expandable, more adaptable and more powerful than any other product of its kind for the Amiga®.

Here are just a few ways ImageFX expands your visual horizons:

★ Scan in or framegrab from a full range of image capturing devices directly into your Amiga.

★ Use your Amiga as an image prepress, color correction system including, CMYK, RGB, HSV and YUV.

★ Digitally retouch any image with the most complete set of filters, color gradients, image distortions, masks, and text handling tools available.



Carsmear by Mike Vunck

★ Automatically convert image files to/from over 20 different file formats.

★ Create true, full motion polymorphic "morphing" animation just like they use in movies, commercials and music videos.

★ Generate single and dual image morphs; wave, ripple and spiral effects; water and glass-like distortions; and a wide range of 24-bit transitions.

★ Make your own add-on features with full ARexx™ and C programming language support.

★ Enjoy near "real time" painting in 24-bit color.

ImageFX is the most exciting and versatile full color, image processing and enhancement system ever made.

You owe it to your imagination to buy ImageFX.

Image Processing
- ★ Regional Processing
- ★ Anti-Aliasing
- ★ Composite Imaging
- ★ RGB, CMYK, HVS Adjustments
- ★ Contrast, Gamma Adjustment

Special Effects
- ★ Full Motion Morphs
- ★ Single/Dual Image Morphs
- ★ 24-Bit Transitions
- ★ Waves and Ripple Effects
- ★ Spiral Effects
- ★ Water/Glass Distortion

Image Rendering
- ★ Amiga, ECS/AGA Modes
- ★ HAM-E, DCTV, GIF
- ★ Multiple Dither Controls
- ★ IV24, FC24, EGS 24-Bit Output

...and much more



Give your Amiga graphics and animations new magical powers — at an affordable price!

If you need ImageFX™ morphing power alone, CineMorph is for you.

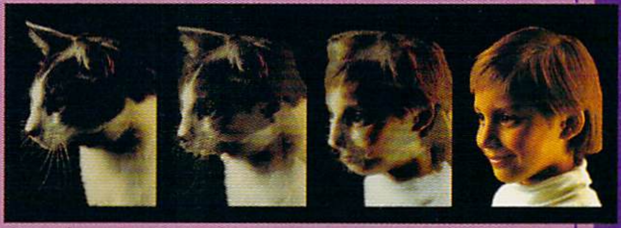
CineMorph transforms any image, or images, from one to another quickly, easily and with the professional quality "morph" results you see at the movies and on TV.

With **CineMorph** you can:

★ Warp single or motion images, create full motion morphs, merge scenes, and perform digital dissolves.

★ Set different speeds for different parts of the morph.

★ Work quickly and easily with Amiga style controls, then output directly to any Amiga, DCTV™, or HAM-E™ systems — including 24-bit display boards like GVP's IV24™.



Remember: When you're in the market for morphing, and only morphing, **CineMorph** is the maximum performance morph power.

CineMorph is the must-buy morph software.

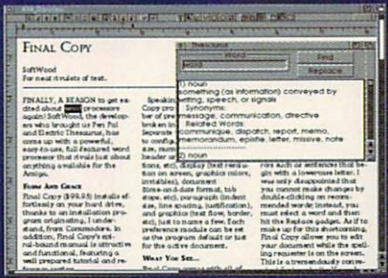
cinemorph™

GVP

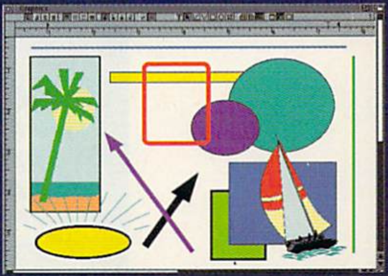
Perfect Holiday Gift Ideas

For more information or your nearest GVP Dealer, phone 215-337-8770 today.
For technical information call 215-354-9495
GREAT VALLEY PRODUCTS, INC. PHONE 215•337•8770
600 CLARK AVENUE KING OF PRUSSIA, PA 19406 U.S.A. FAX 215•337•9922

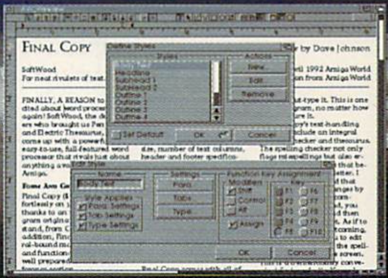
JUST TYPE!



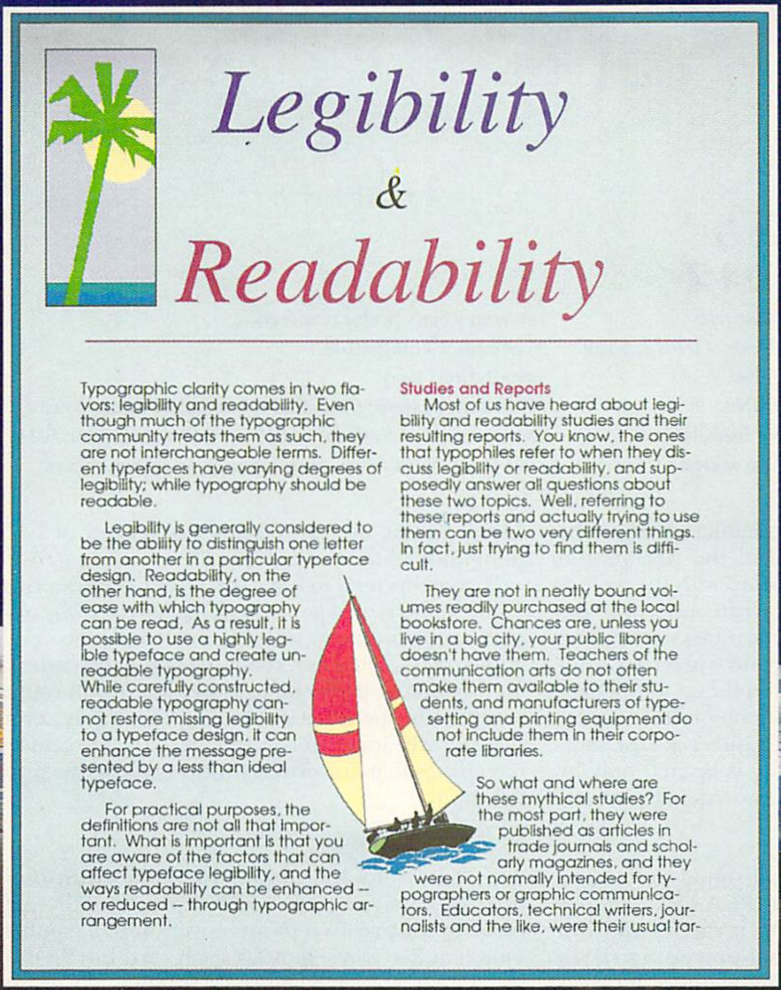
You want a document that reads well in addition to looking good. Final Copy™ comes with a 144,000 word speller, 1.4 million word thesaurus with definitions, master pages, style sheets, paragraph sorting, math, mail-merge, automatic hyphenation, and user-defined tab stops to assist you in your writing.



Final Copy's™ graphic support is the best there is in any Amiga® word processor. Place IFF ILBM pictures and brushes anywhere in a document. Draw boxes, ovals, lines, arrows, squares, and circles using Final Copy's™ structured drawing tools. Flow text around or on top of any graphic in a document.



Style sheets and master pages are features you can really use to ensure your documents are created in a consistent and well-planned manner. Fully editable page views let you work in several levels of reduction and magnification. Multiple snaking columns, left/right pages, and title page options are easy to use.



Legibility
&
Readability

Typographic clarity comes in two flavors: legibility and readability. Even though much of the typographic community treats them as such, they are not interchangeable terms. Different typefaces have varying degrees of legibility; while typography should be readable.

Legibility is generally considered to be the ability to distinguish one letter from another in a particular typeface design. Readability, on the other hand, is the degree of ease with which typography can be read. As a result, it is possible to use a highly legible typeface and create unreadable typography. While carefully constructed, readable typography cannot restore missing legibility to a typeface design, it can enhance the message presented by a less than ideal typeface.

For practical purposes, the definitions are not all that important. What is important is that you are aware of the factors that can affect typeface legibility, and the ways readability can be enhanced -- or reduced -- through typographic arrangement.

Studies and Reports

Most of us have heard about legibility and readability studies and their resulting reports. You know, the ones that typophiles refer to when they discuss legibility or readability, and supposedly answer all questions about these two topics. Well, referring to these reports and actually trying to use them can be two very different things. In fact, just trying to find them is difficult.

They are not in neatly bound volumes readily purchased at the local bookstore. Chances are, unless you live in a big city, your public library doesn't have them. Teachers of the communication arts do not often make them available to their students, and manufacturers of typesetting and printing equipment do not include them in their corporate libraries.

So what and where are these mythical studies? For the most part, they were published as articles in trade journals and scholarly magazines, and they were not normally intended for typographers or graphic communicators. Educators, technical writers, journalists and the like, were their usual tar-

Actual Final Copy II printout.

Comparison Chart	Outline Fonts Included	Style Sheets	Master Pages	Line, Box, Oval Drawing Tools	PostScript™ Support	Thesaurus Responses	Speller Words	Automatic Hyphenation
Final Copy II	**35**	**Yes**	**Yes**	**Yes**	**Excellent**	**1.4 million**	**144,000**	**Yes**
ProWrite 3.3®	0	No	No	No	Limited	300,000	100,000	No

Comparison Chart	Snaking Columns	24 Bit ILBM Support	Editable Page Views	Outline Font Processing	Print 1 pg. Document	Math Support	Outline Fonts 1.3 and 2.0	Print Quality
Final Copy II	**Yes**	**Yes**	**25-400%**	**Fast**	**53 sec.**	**Yes**	**Yes**	**Excellent**
ProWrite 3.3®	Yes	No	No	Slow	2 min. 5 sec.	No	No	Fair

System Requirements: Amiga® with at least 1 megabyte of RAM and either a hard drive or 2 floppy drives.

Circle 48 on Reader Service card.

REVIE

Audio post-production and audio for video.

AD516
AD1012

SunRize Industries
AD516, $1495; *AD1012*, $599.
A2000, A3000.
2.0 compatible.
Hard-drive installable.
Not copy protected.

Internal Zorro II slot connection.
Accelerator compatible.
Installation: Easy.
Minimum system: 3MB RAM, hard disk, audio source.
Recommended system: 68030 or '040 accelerator. 6MB of RAM, hard drive, monitor amp, speakers, mixer.

Professional-quality sampling has come to the Amiga with the arrival of the AD516 and AD1012. Using either board with the included Studio 16 software, you can perform all the traditional audio post-production tasks, including creating sound effects, editing and triggering, editing and replacing dialog, and building multichannel soundtracks in the digital domain. In addition, this audio system functions as a direct-to-disk multitrack recorder, whose capacity is limited only by your hard-drive size and processor speed.

Spiffy Specs

The AD516 is a 16-bit digital-signal-processing card, with unbalanced stereo (RCA jacks) in and out and SMPTE in. On board, it carries 256K of RAM, a 10 MIPS digital-signal-processing (DSP) chip, and 64x oversampling digital filters. It boasts a variable sampling rate of 5.5KHz to 48KHz, a signal-to-noise ratio of 87dB, and frequency response from 15Hz to 22KHz. Based around the same DSP chip, the 12-bit mono AD1012 board has slightly lower specs: only 64K of RAM on board, lower-resolution digital filters, and slightly narrower frequency-response range and signal-to-noise ratio. Input and output are unbalanced mono, with SMPTE in.

The hardware places limits on the recording and playback capabilities: On an accelerated system, the AD516 can handle eight virtual tracks and the AD1012 can manage four; without the benefit of a 68030 or '040, the AD516 can tackle only five tracks, the AD1012 one. Both boards use the same SMPTE reader, capable of reading 24, 25, 29.97 (drop frame), and 30 frames per second of LTC (longitudinal time code).

To locate the vendors of the products reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

If numbers tend to leave you numb, consider this: 16-bit audio is on a par with CD quality; 12-bit compares quite favorably with FM radio and video HiFi audio tracks. If the end result of your audio endeavors is video or audio tape, either board will sound excellent in the mix. Used with proper care, even the slightly lower-resolution AD1012 produces recordings that are virtually indistinguishable from the input.

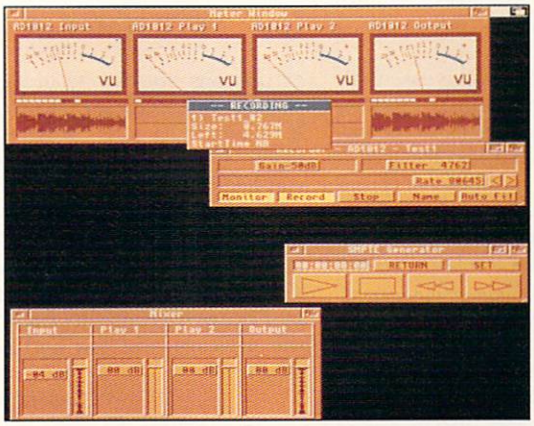
Stu-Stu-Studio

The same software, Studio 16, comes with both boards. The program communicates with each board by means of a software driver called a handler. One handler is resident for each card installed in the system, meaning you could install multiple, independently controlled audio boards. Keep in mind, however, that the manual advises against having more than one AD1012 per system.

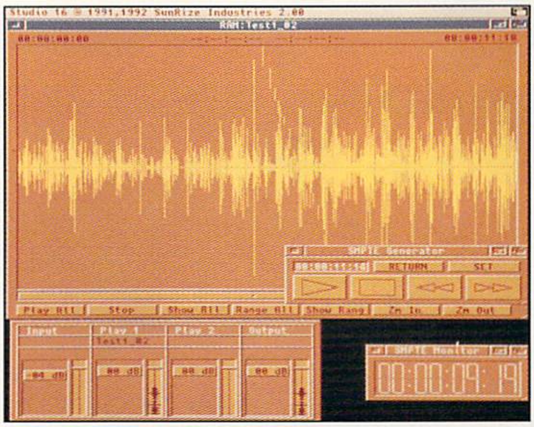
One of the best-designed and most comfortable around, Studio 16's work space consists of separate, task-oriented modules. Via the Preference section, you can configure and resize all of them and request any combination to be present on screen at startup. Plus, you can set the interface colors, SMPTE specifications (source and rate), memory usage (size of record/playback and edit RAM buffers), and record format (16-bit or one of several eight-bit types).

The Meters module presents analog (VU), LED (peak/hold), and scrolling-graph representations of sound-level changes in input, output, and any of the virtual tracks that are playing. They have the same assets and liabilities as their real-world counterparts: The needle animation in the VU meter does not respond quickly to peaks in the sound lev-

W S



The software behind the audio boards, Studio 16 is composed of many modules.



Once you sample your waveform, you can inspect it, sync it, and play it.

el, but it does show the average nicely. The LED style gives a fairly accurate representation of how hot the peaks are and is useful for adjusting the input gain. Looking much like the Editor's oscilloscope display, the scrolling graph plots level against time, providing a good picture of the shape of the entire sample.

The Mixer controls input, output, and playback levels, as well as pan adjustment on the AD516. It also features a tiny version of the scrolling-meter graph. A second choice you have for mixing is the resizeable Tiny Mixer module, which although it lacks pan control takes less processing time for its more Spartan display. If there are too many displays active on the screen at one time, the system and its capabilities can bog down.

Studio 16 offers two ways to record a sample: the Recorder module and the Transport module. From the Recorder you can set the filter and sample rates, adjust input gain, name the sample, and start and stop the recording. Combining a multitude of functions into one window, Transport gives you all the record options plus playback possibilities. You can play and remix tracks onto an open track with no loss of fidelity—everything remains in the digital domain. You can even record the entire Cue List (samples triggered at precise SMPTE times) to an open track.

The Editor allows for destructive and nondestructive alterations to recorded samples. Editing is a matter of highlighting a range of the sample display and selecting an action to perform upon it. You can cut, copy, paste, and insert, as well as freehand draw, fade in and out, resample, generate silence, echo, invert, and more. You can even use ranges as separate samples without resaving them.

Other modules include the Cue List, SMPTE Monitor, SMPTE Generator (for internal use only), Open List (a list of samples by directory used to play, rename, delete, and launch editing), and Real Time Delay. Completely taking over the Studio 16 environment, the latter performs real-time chorus, delay, flange, or echo on the input, allowing full control over all the parameters, and then sends the results to the output.

The Studio 16 manual is extensive and it is well-organized and clear. Substantial background information on digital audio and tutorials are provided, followed by a reference section for each module. The book closes with several lengthy essays on audio post-production techniques and audio-for-video applications.

Smooth Sounds

I used both boards extensively in under-the-gun audio post-production situations, and they quite literally saved me hours of sleep and gray hairs. The Studio 16 software, now at version 2.04, performed smoothly, with none of those annoying surprises that seem to blossom from equipment under pressure. In one situation, without the benefit of SMPTE lock, I was able to accurately set a sequence of sound effects and spot dialog replacement and then play it back in real time along with a Bars and Pipes Professional soundtrack.

Bars and Pipes Pro Tools and Accessories are included with Studio 16 to bring it under the sequencer's control and allow its operation from within the composing environment. The tools include the ability to cue samples to MIDI notes, synchronize the MIDI tracks to SMPTE using the port on the SunRize card, synchronize the playback of a full digital-audio track to a MIDI score, and access all of Studio 16's windows and features.

Studio 16 can respond to Shell commands and play samples on cue in the background, even while the Video Toaster (notorious for its ability to interfere with audio and parallel-port activity) is running. This allows it to be used easily with such multimedia authoring programs as AmigaVision (Commodore) and CanDo (INOVAtronics).

The price for performance is rather intensive hardware requirements. The system works on an unaccelerated Amiga, but with diminished capabil- ►

ities and speed. A hard drive is essential, and because samples are constantly written to and read from it, SunRize recommends a separate partition for audio work to minimize the possibility of errors corrupting the disk. I heartily agree, even though I experienced no problems with disk access. I used a relatively slow 300-megabyte magneto-optical drive and, by offsetting the trigger time, was able to enjoy playback in sync.

While the Editor allows you to clean up the sample considerably and remove extraneous noises, the old garbage in, garbage out adage applies. I also strongly recommend an accurate audio-monitoring system. With digital audio, what you hear is what you will get.

Any tool that does its job, and does it elegantly, is a bargain. Both the AD1012 and the AD516 are that and more. These are truly breakthrough systems that bring high-quality digital audio to the desktop and low-end production studio.

—Michael Hanish

Will Vinton's Playmation

***Will Vinton's Playmation*, $349**

Hard-drive installable.
Not copy protected.
2.0 compatible.
Accelerator compatible.
Minimum system: 68020 accelerator with FPU, 5MB of RAM, hard drive.
Recommended system: 68030 or better, 7MB RAM, hard drive.

Spline-based modeling and 3-D character animation.

Will Vinton's Playmation is the latest incarnation of Hash Enterprise's Animation:Journeyman, the Amiga's first spline-based 3-D modeling and character animation program. While the concepts behind the program remain the same, Playmation sports a more professional and easier-to-use button interface. You rarely need to go to a pull-down menu to issue a command anymore.

Five Easy Pieces

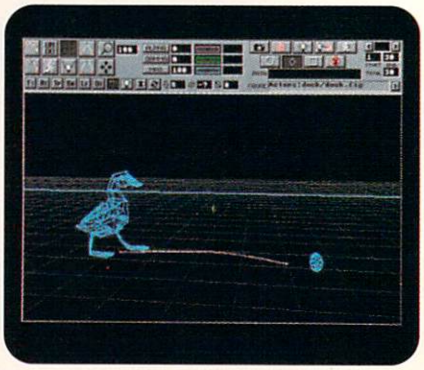
Playmation consists of five modules that take you through the process of designing and animating 3-D models. First is the Sculpture module, where you create the individual segments of the 3-D characters. Unlike other Amiga 3-D modelers, Playmation uses splines, not polygons, to create objects. The splines approach lets you more easily construct natural-looking objects with smoother curved surfaces.

While spline-based modeling may take some getting used to for the polygon faithful, many familiar editing options are available, such as extruding and spinning objects. You can edit objects on a single-point basis or on groups of points. Playmation lets you scale and rotate objects in real time, and adjust the curvature of individual splines. The objects in the Sculpture module are displayed in wireframe mode, with shaded versions available at the click of a button.

After building the individual segments, you assemble them and specify the object hierarchy in the Character module. By defining a parent segment (for example, a hand) and then assigning it children (the individual fingers), you can later define life-like motions. You can also assign attributes to each segment. Aside from the usual choices (color, specularity, reflection, and so on), Playmation has several built-in textures for you to edit and assign to your object. As you edit the textures, Playmation dis- ►

plays the changes in a small preview window, making adjustments much less time consuming. You can also place IFF images on segments, and brushes can act as color, transparency, bump, diffuse, or specular maps.

The next step involves the Action editor, where you add motion to your objects. Playmation allows for Skeletal movement (such as walking) and Morphing/Muscle movement (such as a character's lips changing shape during speaking). The program also allows the definition of a spline as an object's spine, making movement such as bends look more natural. You create the different types of movement by adjusting a character's position in user-defined keyframes. For precise control and easing in and out of a motion, you use Channels, which are graphic representations of movement. You can save the different types of moves separately and load them later for other figures, saving loads of time in future projects (no need to constantly re-create that perfect walk



Will Vinton's Playmation excels at 3-D character animation.

cycle). Playmation lets you preview the action in wireframe, either within the program or by creating an ANIM file and playing it through the supplied Display program.

You pull together the final animation in the Direction module. Here, you assign characters to a path, load their various movements into master lists, and manipulate your camera and light sources. A set of lines emanating from the camera shows exactly what it's pointed at, eliminating guesswork. Light sources indicate their areas of illumination in the same manner, so exact light placement is much easier than in some other programs. As in the Action module, Direction lets you compile a wireframe preview at any time.

The final module is the Renderer, where you compose the animation frames. You can set a background color, turn shadows and reflections on and off, and then choose a mini- (quarter-screen) or standard-size ANIM frame. When rendering, the program displays the average amount of time it takes to render each frame and an estimate for the entire animation. The rendering times are acceptable, certainly faster than previous versions of Animation:Journeyman.

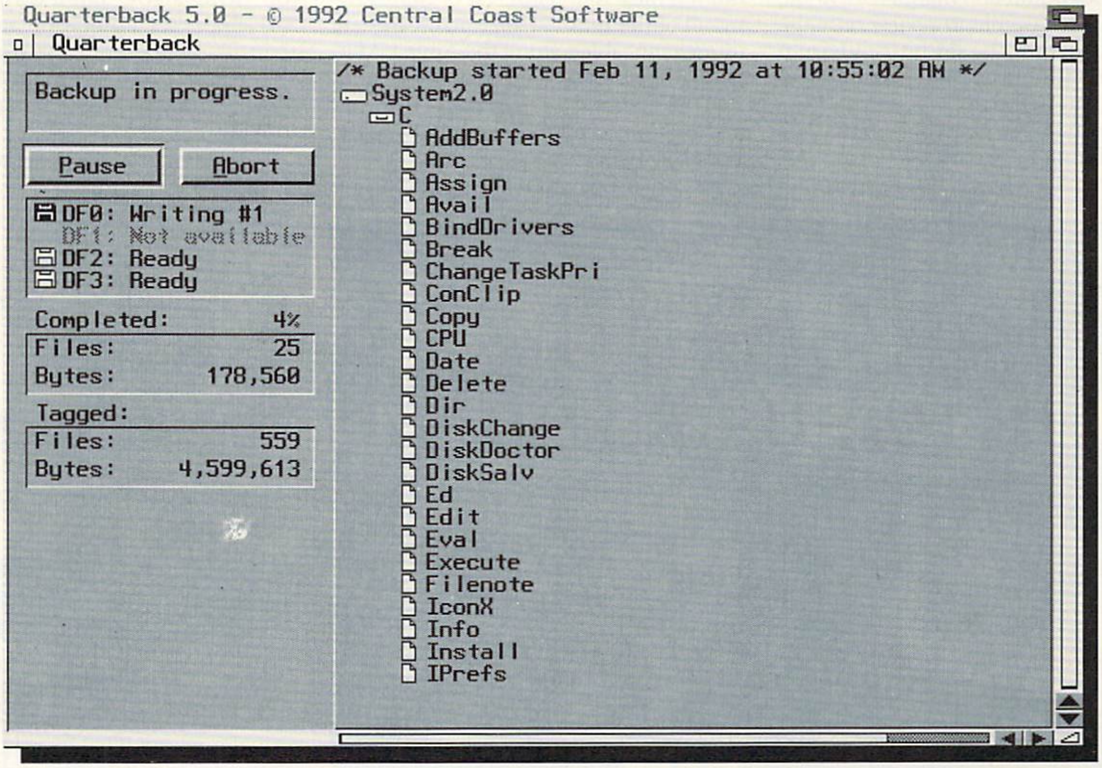
Back to the CLI?

The Renderer, however, contains Playmation's greatest flaw. Playmation defaults to 320x200 HAM images for its frames, and currently there is no way to produce anything larger from the rendering screen. To render in higher resolutions or 24-bit images, you must type a series of nonintuitive commands into the CLI. This is inconvenient, annoying, and inexcusable. I can't fathom why the ability to adjust resolution and color is absent from the rendering interface, especially when the interface was overhauled to make the animation process easier.

The other current drawback to Playmation is the manual. While it's certainly ►

Quarterback 5.0

The Next Generation In Backup Software



- *The fastest backup and archiving program on the Amiga!*
- *Supports up to four floppy drives for backup and restore*
- *New integrated streaming tape support*
- *New "compression" option for backups*
- *Optional password protection, with encryption, for data security*
- *Full tape control for retension, erase and rewinding*
- *New "interrogator," retrieves device information from SCSI devices*
- *Capable of complete, subdirectory-only, or selected-files backup and restore*
- *Improved wild card and pattern matching, for fast and easy selective archiving*
- *Restores all date and time stamps, file notes, and protection bits on files and directories*
- *Supports both hard and soft links*
- *Full macro and AREXX support*
- *Full Workbench 2.0 compatibility*
- *Improved user interface, with Workbench 2.0 style "3-D" appearance*
- *Many more features!*

Thousands of people rely on Quarterback for their backup and archival needs. Now, with Quarterback 5.0, there is even more reason to do so. Greater speed, even more features, and proven reliability. And a new "3-D" user interface puts these powerful capabilities at your finger tips. With features like these, it is no wonder that Quarterback is the best selling backup program for the Amiga. Would you trust your data with anything less?

CCS

Central Coast Software

A Division Of New Horizons Software, Inc.

206 Wild Basin Road, Suite 109,
Austin, Texas 78746
(512) 328-6650 • FAX (512) 328-1925

Quarterback is a trademark of New Horizons Software, Inc.

Circle 36 on Reader Service card.

well written, it's not for the Amiga version. The program is currently shipping with the manual for Playmation's Windows version. While the interfaces of the two programs are exactly the same, references to Windows are distracting. An Amiga addendum and manual are in the works, but I was able to review only the pages discussing the 24-bit rendering. Also, there should be some more introductory material in the manual, because all of Playmation's new concepts can be overwhelming to beginners.

On the plus side, Playmation comes with objects and motion files that are not only helpful learning tools, but also useful for incorporating in your own animations. Registered Playmation users can also access a support BBS to pose technical questions and exchange objects and motion files. In the interest of connectivity, all of the files Playmation creates are interchangeable among the Amiga, Mac, and IBM versions. This should allow for a greater supply of third-party objects and motions than many other Amiga 3-D programs have.

Overall, Playmation is a unique program, containing features and abilities not available in any other software package. While the interface is much improved, however, this is still a very complex program that can easily frustrate impatient users. It's not my first choice for "flying logos," but it certainly makes 3-D character animation much easier than its competitors. Bottom line: For spline-based modeling and 3-D character animation, nothing even comes close to Will Vinton's Playmation.

—Dave Thomas

GigaMem

Pre'spect Technics, Inc., $149.

Hard drive installable.
Not copy protected.
2.0 compatible.
Accelerator compatible (except 68040)
Minimum system: An MMU and mass data-storage device.
Recommended system: An MMU and hard drive.

Simulates RAM for memory-intensive tasks

One of the my biggest disappointments with Workbench 2.0, 2.1, and even 3.0 is the lack of system support for virtual memory. That oversight has been rectified, at least in part, by a new program called GigaMem.

What exactly is virtual memory? It doesn't involve putting on lots of virtual reality headgear to save a file. Simply put, it's a way of tricking your computer into thinking it has more RAM than it actually does by having it access a storage device, such as a hard drive, rather than go to precious and expensive memory.

GigaMem does what it claims and does it well. All you need is an MMU (Memory Management Unit, such as in the 68030 CPU) and a storage device such as a hard disk or Syquest drive. GigaMem hides in the background, intercepts memory usage of only those programs that you want to use virtual memory, and leaves your other software alone. You even tell GigaMem in what order to allocate memory for each program. For example, Imagemaster (Black Belt Systems) can use RAM first (for speed), while ProWrite (New Horizons) first draws on virtual memory, leaving the real stuff for other programs that might not use virtual memory at all.

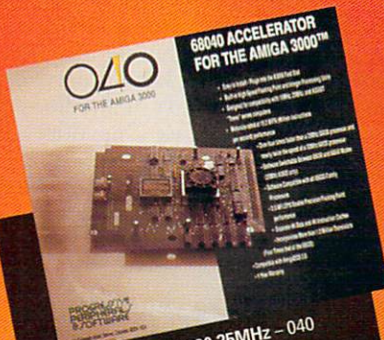
The Old Switcheroo

Installation is fairly straightforward. The 90-page, half-German, half-English ►

THE PREFERRED PERIPHERALS.



Mercury 28MHz or 35MHz – The fastest, most expandable Amiga™ 3000 accelerator in the world. Over 26 MIPS performance at 35MHz!



Progressive 040/3000 25MHz – 040 power that fits any budget. "The Progressive 040/3000 works flawlessly." *(Amiga World, January 1992)*



Progressive 040/500 28MHz or 33MHz – Up to 8MB 32-bit RAM, switchable between AmigaDOS™ 1.3 & 2.0 with on-board 2.0 ROM. The world's fastest Amiga™ 500 accelerator!



Zeus 28MHz or 33MHz – The most powerful accelerator for the Amiga™ 2000. Zeus is the only true ***FAST*** SCSI-2 DMA controller with 28MHz or 33MHz 040 power and 64MB RAM expansion! AmigaDOS™ 1.3 and 2.0 compatible.



Progressive 040/2000 28MHz or 33MHz – Fast, compatible '040-able' power for the Amiga™ 2000, expandable to 32MB RAM. "The PP&S 040 guarantees that your Amiga™ 2000 will not lose its technological edge." *(Amazing Computing, November, 1992)*

Progressive Peripheral's 040 accelerators will make your Amiga™ 500, 2000 or 3000 one of the fastest in the world. Whatever your application – professional desktop video, 3-D modeling, rendering, animation, desktop publishing, graphic arts, CAD – a Progressive Peripherals 040 will get it done faster.

Progressive 040's aren't just fast, they're affordable! Choose 28MHz or 33MHz to fit your budget. Avoid overpriced, "custom" RAM expansion. Mercury, Zeus, and Progressive's 040/2000 use industry-standard 1MBx8 or 4MBx8 SIMM modules for maximum performance and value.

Discover what thousands of accelerated Amiga™ professionals already know: a Progressive 040 accelerator is the best way to power up your Amiga.™ Ask your preferred Amiga™ dealer for the latest Progressive 040 pricing and start accelerating today!

Progressive Peripherals has relocated to serve you better:

PROGRESSIVE PERIPHERALS INC.

938 Quail Street, Lakewood, Colorado 80215-5513
Telephone: +01 (303) 238-5555 • Fax: +01 (303) 235-0600 • 24-Hour BBS: +01 (303) 238-6326

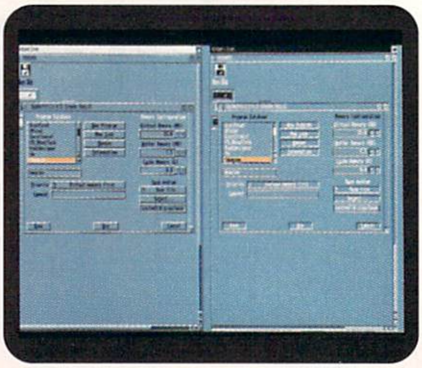
Circle 150 on Reader Service card.

The graphic effects on this page were generated in seconds by Rambrandt Personal, Tecsoft's TV Paint and Mercury.

manual is plenty adequate for getting the average user up and running—thanks to Commodore's painless installer program.

There are, in fact, few decisions to make during the entire process. The most important consideration is where to put the swap file. A swap file is the hard-drive location where GigaMem mimics RAM, simulating available memory. GigaMem requires that this swap file not be placed in the same partition as any data saved by a program using virtual memory. Does that sound confusing? Put another way, assume you are using Imagemaster with GigaMem. When you save an image, it cannot be stored in the same hard-drive partition as the GigaMem swap file. Because of that restriction, I chose to put GigaMem and its associated swap file in the System partition. If you keep programs in one partition and data in another partition, you could place GigaMem with the applications.

Three programs comprise GigaMem:



GigaMem Prefs lets you specify the amount of virtual memory available and when various programs should use it.

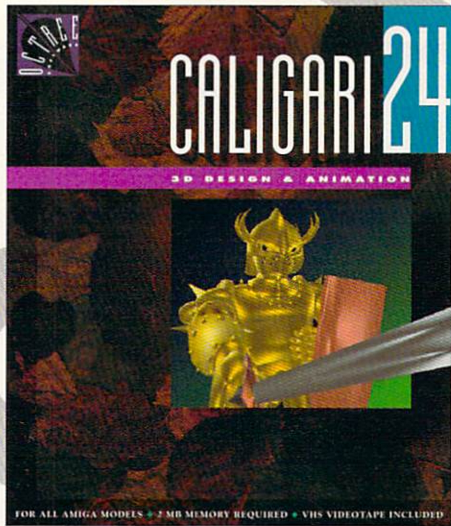
a startup utility (for the WBStartup drawer), GigaMem itself, and GigaMem Prefs (in which you interact with GigaMem and configure its workings). Prefs has an attractive Workbench 2.0 interface, making it easy to select the amount of virtual memory to use—limited, of course, by the hard-disk space you're willing to relinquish to the swap file. Buffer and cache memory entries are dedicated to speeding up the virtual memory, much like a floppy-drive cache. The GigaMem manual recommends ideal settings based on your particular Amiga configuration.

The central focus of GigaMem Prefs is the program database, a listing of programs compatible with GigaMem. It comes preloaded with common programs such as ProWrite, PageStream2 (Soft-Logik), Imagemaster, Digi-Paint (NewTek), and many more. The manual describes how to add other programs to the database, but admits that this can often be a trial-and-error process if the default settings do not work right off. You can configure each program individually to use normal memory first, virtual memory first, or none of either. The database keeps you informed of which programs are currently using virtual memory, as well.

Is It RAM or Is It GigaMem?

GigaMem is an effective way to increase your Amiga's usefulness. I found it a little restrictive, however. GigaMem wedges itself in your processor's MMU, making it incompatible with some programming tools and CPU controllers designed to speed up your system. Also, a last minute Read_Me file on the distribution disk warns you not to use Power Packer on your hard drive because of memory management conflicts with GigaMem. Instead, it suggests Imploder. If you already use Power Packer, converting a

Continued on p.78.



This time we pulled out all the stops.

Until now, 3D modeling, rendering and animation was really 2D, enhanced with three viewing perspectives.

Unlike old programs, Caligari's direct manipulation actually mirrors the everyday world. Objects can be moved, rotated and scaled by simply pointing the mouse. No menus to access. Everything happens in real time.

In fact Caligari24 operates so much like the real world that you will be able to start creating and manipulating objects in minutes. Not just simple geometric objects. Organic Deformations, Point Editing and Extrusions can generate anything you can conceive. Of course your models are fully hierarchical.

As animations go, you can easily animate a battalion of marching soldiers with just a few mouse clicks and present it with 16.7 million colors (plus 8bit Alpha).

You want Caligari24 because of what it will do for you... its 3D interface, its features, its speed, its photorealistic rendering, and its compatibility (including DXF) with other products.

You want Caligari24 because of who we are. Since 1986, profesional 3D software for the Amiga has been our only business. Our commitment to Caligari and the quality of our customer support is simply unmatched by the competition.

NEW!

Hierarchical Animations, Organic Deformations, 32 bit color, IFF textures, and more...

$399.00!

MFG Suggested List Price

The Power of Direct Manipulation

CALIGARI24

AmigaWorld cover, September 1992



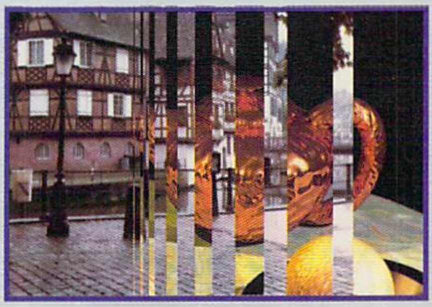
The products mentioned above are trademarks of the following companies: Caligari24/Octree Software, Inc.; Amiga/Commodore Business Machines. Images created by Paul Safr (Knight) and Stephen Menzies (Flower).

Octree Software Inc.
1955 Landings Drive
Mountain View,
CA 94043
Tel. 415. 390 9600
Fax 415. 390 9755

Circle 82 on Reader Service card.







The OpalVision Main Board

- An internal card which operates in any Amiga computer with a video slot.
- A true 24-bit frame buffer and display device with 16.8 million colors available for every pixel.
- Uncompromised, 24-bit higher-than-broadcast-quality, crystal-clear images.
- Standard Amiga graphics and animations can appear in front of or behind OpalVision images on a pixel-by-pixel basis.
- Performs double-buffered 24-bit and 15-bit animation in medium and low resolution modes and 8-bit double-buffered animation in all resolutions.
- VLSI graphics coprocessor enables resolution changes, stencil modes, a host of transition effects and smooth scrolling between screens.
- "Palette-Mapped" design updates screen colors in real-time. Fade pictures in and out and change their palettes on the fly.
- Double buffered full 24-bit, 15-bit and 8-bit true color modes, 24-bit and 8-bit palette-mapped display modes, Dual Playfield and Overlay Priority stencil modes.
- Priority mask definition specifies foreground/background areas in 24-bit images.
- Microcode graphics processor for system control, priority switching, hardware scrolling and panning.
- 20ns video switch to freely mix Amiga and OpalVision graphics.
- Expansion connectors for available Framegrabber/Genlock and Scan-Rate Converter hardware modules.
- Expansion socket for the "Roaster Chip," a live video special effects processor.
- Automatically self-configures for NTSC or PAL operation.
- 24-bit RGB output with video bandwidth >7 MHZ. Equipped with 1.5 MB of display RAM.

OpalVision Software

Every OpalVision Main Board includes a full range of software to let you start creating graphics, animations and presentations immediately:

OpalPaint

Everyone is excited about OpalPaint. In fact, nearly everyone who's spent any time using it says it's the best paint program on the Amiga. And with good reason. It's Fast. Real-time. Full 24-Bit. OpalPaint gives you complete control over OpalVision's 16.8 million color palette. Includes a full-range of drawing tools and an expandable library of image-processing modes with adjustable parameters, complete texture-mapping capabilities, transparency and color gradients, multiple work modes, nozzle brushes, pre-defined palettes and many other comprehensive tools. Unique and powerful features like real-world "Artist's tools" and paper types, multiple stencil types, virtual memory support and compatibility with the pressure-sensitive Wacom drawing tablet provide a level of support for artistic creativity never before available on the Amiga.

Also included are **OpalAnimMATE** (see News Flash on previous page), **Opal Presents!**, an icon-driven presentation program, **OpalVision Hot Key**, a powerful and very useful image display utility and the world's first 24-Bit game, **King of Karate.**

The OpalVision Main Board is the core of a complete video system.

Enhancement Modules are on the way which add exceptional graphic and video features to the OpalVision Main Board. Create a complete video production studio by adding some or all of the OpalVision Expansion modules. The modules connect directly to the Main Board without tying up Amiga slots.

Frame Grabber + Genlock Module

24-Bit real-time framegrabbing and better-than-broadcast-quality genlocking with S-Video, RGB and composite inputs and outputs. Real-Time video effects, transitions and color processing.

Quad-input Production Switcher

Complete video switching capabilities. Includes four S-VHS, four composite and one RGB input. Three outputs: Composite, S-Video and RGB. Combine two live video sources, 24-Bit OpalVision and Amiga-generated graphics.

OpalVision Scan-Rate Converter

Perfect for desktop publishing and graphic arts applications. Generates flicker-free 24-Bit and Amiga graphics. Can also be used as a separate 24-Bit frame store for multimedia applications.

OpalVision Roaster Chip

Amazing, complex Digital Video Effects. Real-time processing of live video. "Picture-in-Picture" capability. Includes pre-made effects and provides for the creation of custom effects.

OpalVision Authorized Distributors

Germany	VIDEOCOMP Frankfurt Ph: 49 (069)-507-6969 Fax: 49 (069)-507-6200
U.K.	ZCL Lichfield Staffs Ph: (44)543-414817 Fax: (44)543-250713
Spain	ARKOFOTO SA Barcelona Ph: (34)3301-0020 Fax: (34)3318-0277
Norway	CAPELLA AS Oslo Ph: (47)220-0806 Fax: (47)220-0805
France	CIS Pessac Ph: (33)563-63441 Fax: (33)563-62846
Sweden	KARLBURG & KARLBURG AB Bjarred Ph: 46 (464)7450 Fax: 46 (464)7120
Italy	KB SRL Cadriano Di Granarolo (Bologna) Ph: (39)517-65563 Fax: (39)517-65568
Denmark	SCALA COMPUTER TELEVISION Herlev Ph: 45 (44) 53 11 77 Fax: 45(44) 53 11 73
Holland	TAKE ONE PRODS. Heerlen Ph: 31-(45)225-783 Fax: 31-(45)212-263
USA	Micro-PACE Distributors, Inc. Illinois Ph: (217) 356-1884 Fax: (217) 356-0097 AMERICAN SOFTWARE AND HARDWARE DISTRIBUTORS, INC. Illinois Ph: (217) 384-2050 Fax: (217) 384-2055

INCREDIBLE VIDEO BOARD TRADE-IN OFFER!

SEND US YOUR OLD VIDEO BOARD AND YOU'LL SAVE HUNDREDS OF DOLLARS ON AN AWESOME, NEW OPALVISION MAIN BOARD. CALL NOW FOR DETAILS:

1-800-621-2202

LIMITED TIME OFFER! ACT NOW!*

Centaur Development

opal tech

P.O. Box 4400, Redondo Beach, CA 90278
Phone: (310) 542-2226 FAX: (310) 542-9998
OpalVision BBS: (310)793-7142

*Centaur reserves the right to limit this offer to specific video boards and/or quantities which will be accepted as trade-ins at Centaur's discretion. Centaur may alter or change the terms and conditions of this offer at any time at its sole discretion. Please call Centaur for complete details.

The A1200

A New Mainstream Amiga?

Combining affordability with the sophisticated performance features of its new AGA line of computers, Commodore may finally have hit a home run with the entry-level A1200.



BY LOU WALLACE

PHOTOGRAPHED BY EDWARD JUDICE

ONLY A FEW months ago, Commodore introduced the high-end version of its next-generation line of new machines. Billed as the "multimedia computer," the A4000—priced at $3699—gave the sagging Amiga a powerful technological boost in its battle with ever more powerful PCs and Macs.

Now the "New Line" has taken a bold step downwards to a price point that could propel CBM and the Amiga into the mainstream of desktop computing. Unveiled at the recent COMDEX show in Las Vegas, Commodore's new entry-level computer, the A1200, sports a highly attractive list price of $699. The new machine, which replaces the older A500 computer, offers users a surprisingly gaudy array of standard features, as well as possibilities for future expansion.

Chock Full o' Features

The A1200 is a 14 MHz 68020 system that incorporates Commodore's new AGA (Advanced Graphic Architecture) chip set. The base machine comes with 2MB of RAM (all chip), one 880K floppy, and a PCMCIA slot. (This is the same interface found on the A600 and CDTV. It appears this is becoming a standard on all but high-end Amiga computers.) The operating system is the new AmigaDOS 3.0 introduced with the A4000. (For more on both 3.0 and the A4000, see the cover story, Nov. '92, p. 30.)

Further expansion is possible using a CPU expansion slot found on the bottom of the A1200 (in the same location as for the A512 RAM card in the A500). This slot supports a 150-pin local bus-expansion adapter that can be used to add more RAM, a coprocessor, a CPU accelerator, or even a SCSI interface. An additional 8MB of RAM can be added, bringing the total to 10MB.

Also included with the A1200 is an internal IDE hard-disk interface. You can purchase an optional 2.5-inch IDE hard drive to augment the standard floppy-based system.

Unlike the A600, the A1200 comes complete with a calculator keypad on the keyboard—which makes the machine a bit wider then the A600. The A1200 is equipped with all the standard Amiga ports for mouse, joystick, external floppies, serial, parallel, and video (RGBA, VGA. SVGA, composite).

Soul of the New Machine

First and foremost, the A1200 makes use of the second-generation Amiga chip set. The AGA chips are the heart and soul of the new line of Amiga computers. With AGA, the Amiga sports a palette with true 24-bit color capability, meaning it can make use of more then 16 million colors. In terms of actual display, the number of colors that can be displayed at any one time now ranges from as few as two to more than 256,000. Using up to eight bitplanes, screens of up to 256 colors are available in normal display modes; in the new HAM8 mode, these same eight bitplanes can generate 256,000-color displays that rival true 24-bit displays.

The range of screen sizes that are possible with AGA also far exceeds that of earlier Amiga chips. In addition to the old sizes (320×200 to 640×400), you can now create screens of 800×600, 640×960, 1280×400, or 1312×512, all of which can use up to the full eight bitplanes of color.

What is most significant about the new AGA Amiga line is that the graphics are standard across the line. This means the A1200 has all the graphics power of the more powerful A4000 computer. (Look for an in-depth examination of Commodore's new machines, as well as AmigaDOS 3.0, in the March issue.)

Firepower in the Belly

The Amiga 1000 released in 1985 used the 7 Mhz 68000 CPU from Motorola. This same processor was used in the A2000, A500, and A600. With the release of the A1200, Commodore has indicated the day of the 68000 is over. The A1200 comes standard with a 14 MHz 68EC020 processor. This 32-bit chip operates at several times the speed of the A500, a speed increase based partially on the higher clock rate (14 MHz vs. 7 MHz) but also on basic design improvements in the 68020 over the 68000.

This extra speed is more then welcome when using the new display modes. Moving eight-bitplane graphics around is not a job for lightweights—it takes real computer power. This is especially important in standard Amiga applications like animation, video, multimedia, and, of course, games.

Because the A1200 is now the new entry-level Amiga, game developemnt is likely to become important once more. Many game companies have avoided porting their VGA-style games to the Amiga because of the higher color and pixel resolutions used in those VGA games. With these obstacles eliminated by the A1200, expect to see a lot of games ported. Even more importantly, original games developed specifically for AGA are likely to take full advantage of the new features. I believe such games may be what many Amiga gamers have been awaiting for a long time.

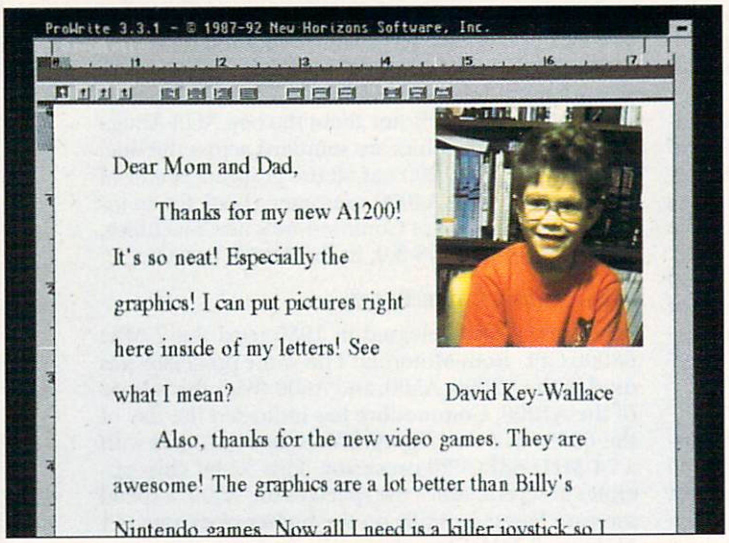
Beyond that, the A1200 is up to just about any computing task. The 68020 is a good compromise for a CPU, allowing more computer speed without raising the price. For any standard productivity task—word processing, spreadsheets, and databases—the A1200 will more then serve. Graphics, animation, and music applications will be ideally suited to this machine. Videographers will find the A1200 attractive as a low-cost, high-quality video titler. Also, at the price, it is likely to be used in such multimedia applications as interactive kiosks. And, of course, just add some more memory, a math chip, or a faster processor, and it will hold its own against any Amiga available.

I'll Take One!

So what do I think? I'm impressed. The A1200 is powerful, affordable, and expandable. It seems to be a proper hybrid of the A500's low cost, the A4000's ►

graphics, and the A2500's speed. And Commodore has learned some important lessons, especially from the A500. That machine, originally designed as a nearly nonexpandable unit, developed over time as an extremely expandable base machine owing to the innovative strategies of third-party developers. With its 150-pin expansion slot, PCMCIA slot, and built-in IDE interface, the A1200 is all ready to upgrade. I think vendors will have a lot of fun developing add-on products for the A1200.

Commodore has spent the last few years wishing for a computer that could emulate the success of the C-64. While I don't expect the company to sell ten million A1200s, I do think this is the best entry-level machine it has come up with since then. Let's see what happens next! ■



ProWrite 3.3 supports the A1200's new AGA color and screen resolutions, as in the case of this 800×600 display with a 256-color image incorporated into the text.

Technical Specifications

CPU
- 14.32 MHz 68EC020 NTSC
- 32-bit data path
- 24-bit address space
- *Optional* 68881/68882 math coprocessor

Memory and Expansion
- Up to 2MB 32-bit chip RAM
- *Optional* battery-backed real-time clock
- Internal 150-pin local bus connector
- Supports PCMCIA-standard 2.0 memory and I/O cards
- Expandable to 10MB RAM

Software
- 512K 32-bit ROM, expandable to 2MB
- Includes PCMCIA code
- AmigaDOS 3.0
- Supports progRAMmable resolutions
- Supports outline fonts
- Localized for multiple languages/countries
- CrossDOS MS-DOS file transfer utility

Disk Drives
- Built-in slimline 3½-inch 880K disk drive
- *Optional* 2½-inch IDE hard disk drive

Interfaces
- Keyboard
- Mouse/Joystick/Lightpen/Tablet ports (2)
- Serial (RS-232)
- Parallel (Centronics)
- Video (RGB Analog, VGA, SVGA)
- Color Composite and RF Modulated Video
- Right and Left stereo audio
- External floppy-disk drive port
- Internal IDE port
- PCMCIA 2.0 Standard Slot
- External expansion port

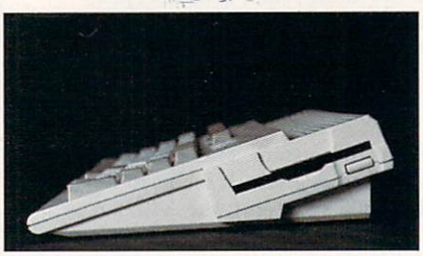
CPU Expansion Bus

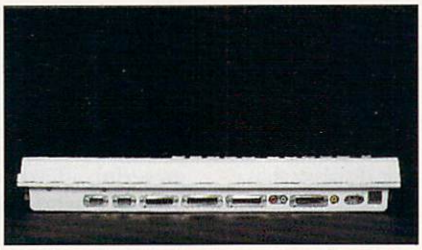
150-pin Local Bus edge connector provides:
- High-speed 32-bit RAM expansion
- Coprocessor expansion
- CPU accelerators

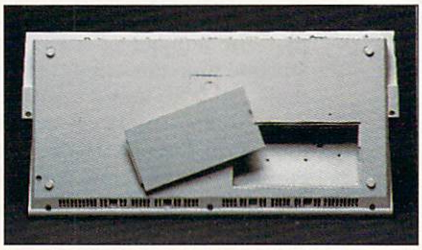
Sound
- 8-bit audio with four voices configured as two stereo channels
- Built-in sound buffer up to 800K nominal
- 6-bit volume

Graphic Modes
- AGA custom chip set produces resolutions from 320×200 to 1280×400 (more with overscan)
- NTSC and PAL video resolutions
- Color palette of 16.8 million colors
- 2 to 256,000 user-definable colors displayable on screen

Video Display Output
- Works with RGB analog, VGA, or Multiscan monitors (not all modes supported with nonmultiscan monitors)
- Horizontal scan rates 15 Khz–31 Khz
- Vertical scan rates 50 Hz–72 Hz
- NTSC Color composite output
- RF output for standard TV







The Amiga 1200 sports an 880K floppy drive on the right side (left), all the standard Amiga expansion ports on the rear panel (center), a PCMCIA slot on the left side (not pictured), and a CPU expansion slot on the underside (right).

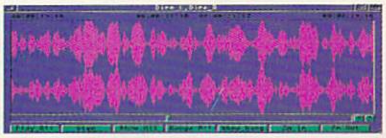
16 Bit Desktop Audio

AD516

The AD516 hardware provides stereo in/out connectors, plus a SMPTE in. Just plug your VTR, CD player, radio, tape deck, or other audio source directly in. Then record in stereo, direct to hard disk, with 16 bits at sampling rates up to 48,000 samples per second. Plus, the AD516's efficient design allows 8 track playback direct from hard disk. The AD516 can synchronize and chase SMPTE time code at 24, 25, 29.97, and 30 fps (drop or non-drop frame). Designed to exceptional audio standards, the AD516 offers 15Hz to 22KHz frequency response and 85dB dynamic range.

Waveform Editor

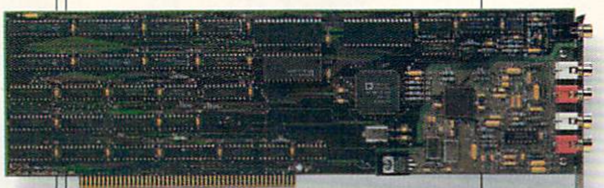
The Studio 16 sound editor graphs the audio waveform and allows you to cut, copy, and paste audio. Up to eight samples



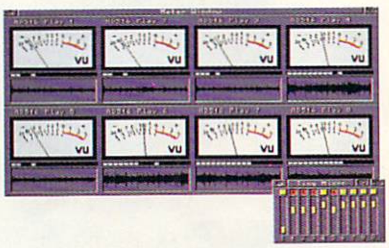
can be edited per window. And edits can be non-destructive or permanent. Zoom, scale, fade, reverse, echo, normalize, loop FFT, resample, and many other functions are available. Named regions can be defined and used in the cue list or transport modules.



Professional Digital Sound for Your Video, Music, and Radio Productions



Finally, true CD quality 16 bit audio is available for your Amiga! SunRize's new AD516 gives you eight tracks, plus a time code reader and a DSP chip. Included with the AD516 is Studio 16™ version 2.0. This new release of our popular 16 bit editing software puts a complete sound studio on your desk!



Video Production

The Video Toaster goes a long way towards solving your video problems. But what about sound? Do you want to do ADR or voice-overs? Do you need to synchronize background music with your productions? How do you add footsteps, door knocks, and other sound effects to your video or animation? Do you need to fade, cross fade, or eliminate sections of audio? Can you edit your audio, or are you stuck with the first take? Studio 16 solves all these problems by turning your Amiga into a complete sound studio. With Studio 16's cue list and SMPTE support you can lock sounds frame accurately with your video. Audio triggers reliably, at the same spot, every time. Or you can slip your audio effects, trying them at different spots. And since Studio 16 plays directly off hard disk, the number of sounds you can trigger is unlimited.

Mixer and Meters

Each of Studio 16's eight tracks can be metered and mixed. Unlike two track systems, Studio 16 can combine multiple tracks with no generation loss. And it can record two tracks while playing up to eight!

DSP Supercharger

The AD516 includes a special sound coprocessor - the advanced 2105 DSP. The DSP allows Studio 16 to handle those eight tracks while performing real time mixing. The DSP can also do high quality 16 bit effects such as echo, flange, delay and chorus.

Low Prices, High Performance



Studio 16 2.0 comes with either the AD516 (16 bit, 8 track, stereo, $1495 list) or the AD1012 (12 bit, 4 track, mono, $595 list). Also available is the DD524 digital I/O card for direct interface to DAT. **Call today for a free Studio 16 information packet. Tel: (408)374-4962. Fax: (408)374-4963.**

SunRize INDUSTRIES

2959 S. Winchester Blvd., Suite 204
Campbell, CA 95008 USA

European Representatives: **FINLAND** Power Computers +358 (18) 781 8992. **FRANCE** Storm +33 (1) 43 57 46 57. **GERMANY** AS&S +49 (069) 5 48 81 30. **ITALY** AP&S +39 (0432) 759264. **SPAIN** PiXeLSOFT +34 (088) 71 27 00. **SWEDEN** DisplayData +46 (0457) 503 80. **SWITZERLAND** Microtron +41 (032) 872429. **UNITED KINGDOM** HB Marketing +44 (0753) 686000.

Circle 57 on Reader Service card.



Post Script
PRO
WRITE
FinalCopy

Increase Your Word Power

We're not talking vocabulary here, but word processing. We're also talking some serious advice—answers and solutions from experts on the most popular programs. And besides showing you how to pack more power into every keypunch, we'll reveal which packages have the most important features.

Even if you've been using your word processor for months—or even years—there are probably plenty of things you still don't know about it. Useful things: time-saving shortcuts, dilemma-solving solutions. Not because you haven't read the manual (oh, no!), but because some useful capabilities are just plain obscure.

We scouted around to determine which are the the most widely-used Amiga word processors. Then we asked a group of experts, including program authors and tech-support providers, to share their insights on the particular program they know so well. The tips and techniques they offered us—presented in Q&A format according to alphabetical order of program name—are sure to increase your word power.

So that you know the powers of all the word-processing software now on the market, we also worked up a chart. Entitled "The Powers of the Words," it lists the most sought-after document-processing features, and tells you which of the current programs implement them. ►

ILLUSTRATED BY JOHN O'LEARY



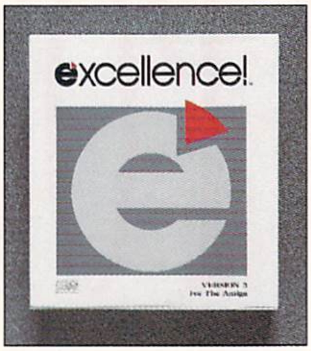
There is a lot of good advice here, and we hope you find this collection interesting and useful.

Quick Guide

Tips for:
excellence! by Andrew Apold, p. 36
Final Copy by Jeff James, p. 38
KindWords3 & WordsWorth by Michael Rivera, p. 38
ProWrite by James Bayless, p. 40
TransWrite by Chris Zamara and Nick Sullivan, p. 42
WordPerfect by Liz Tanner and Mike Madsen, p. 46
Comparison Chart, p. 44

excellence!

Micro-Systems Software



Micro-Systems' excellence! has been around for nearly five years and is now in version 3.0. The answers to these common questions about the program provide solutions and shortcuts.

Q: How can I quickly access foreign characters and symbols?
A: You cannot use normal Alt key combinations with excellence!, and accessing characters via the Insert Literal requester can be slow when typing. To access one of these characters quickly, insert it as usual, then place it in the glossary and assign it to a key combination; you could assign a character to Alt-C, for example.

Q: What are the function keys used for?
A: The function keys are left unassigned so you can customize them to perform whichever glossary functions you wish. If you are accustomed to pressing Shift-F7 to print, for example, you can make a glossary macro ({print}) and assign it to that key combination.

Q: Can I change screen modes without exiting the program?
A: Yes, but not if there is a window open. First close all document windows, then bring up the Preferences menu, and change screen modes. The changes will take place as soon as you exit Preferences.

Q: *What fonts can excellence! use for screen displays?*
A: Excellence! uses a font named Helv whenever it can for menus and requesters. Helv comes in two sizes, 8 and 13. The 8-point size is used on non-interlaced displays, while the 13-point face is used with interlaced or productivity screens. Where it cannot use a proportional font (such as menus under AmigaDOS 1.3), excellence! uses a similar monospaced font named Sys. If the program trys to use these fonts and they are not present on the system, it will use Topaz 8 instead.

Q: Why don't some fonts appear in the Font requester?
A: Some fonts are "marked" as being bold or italic. If a bold font has no plain counterpart, it will not show up in the Font menu unless the text style bold is selected. If a font you think should be present in the Font requester is not, select Bold (or Italic) and bring up the requester again to see if it shows up.

With some typefaces, plain, bold, and italic versions are separate files. If you select CGTimes, for example, you get the standard delay while it loads the font. If you then select the Bold or Italic button, you normally get another delay, as if the program were loading another outline font. In fact, this is exactly what it is doing. You will not experience this delay if you have used the Fountain program (provided with AmigaDOS 2.0) to create a bitmapped version of the font.

To see the difference, use Fountain to create a bitmapped version of CGTimes at a large size, such as 50. Then, in excellence!, select CGTimes at 50. Type some text as plain, some in bold, and some in italics. Now select CGTimes at a similar size that has no bitmapped version, such as 48. Repeat the procedure. You will notice that the bitmapped version (size 50) italicizes and bolds the plain font, while the outline version uses separately drawn italic and bold fonts.

Q: On some machines, black PostScript text prints as a grayscale or even white. Why, and how can I correct this?
A: Make sure that the third color in your palette is black. If it is not, swap the positions of the colors so that black is third. The display will remap correctly once you exit Preferences.

Q: Is it possible to improve the print resolution of the Graphic Print mode?
A: You can increase the horizontal resolution by setting the pitch higher. Using a pitch of 15 squeezes 50% more into the same width as a pitch of 10 would. This works best with fonts meant to be used at that pitch, such as bitmapped representations of the PostScript fonts (PTimes, PCourier, PHelvetica, and PSymbol) included with excellence!.

Q: Can I get additional font sizes for the PostScript fonts?
A: Workbench 2.0 lets you use the PostScript faces at any point size from 7 to 99. Simply select the name of the typeface and enter the size you want. The bitmapped representations are scaled on screen, and may look blocky, but the printouts will be sharp, as the PostScript printer will scale its own fonts.

Q: How can I cause the Font directory to reload?
A: Hold down the Shift key when you click on the Font button.

Q: How can I change the way a word hyphenates?
A: To change a word's hyphenation rules, bring up the SpellMate utility by double-clicking on the User Dictionary icon (located in the DocTools drawer). Enter the word you wish to rehyphenate into the SpellMate program, using a forward slash character at locations where you want the word to be able to split. For example, to have the word AmigaDOS split as Amiga-DOS at line breaks, enter it in as Amiga/DOS and then save the change. It will split accordingly in the future.

Q: How can I highlight text from an ARexx script?
A: You can do this via the Type command. To high- ►

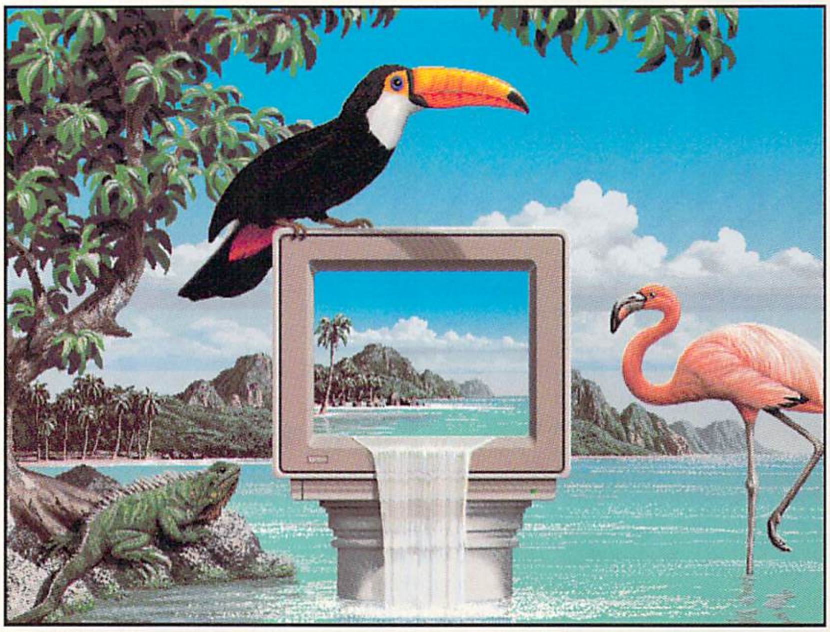
BRILLIANCE™

PROFESSIONAL PAINT & ANIMATION

IT HAD TO HAPPEN...

We put the creators of Deluxe Paint ST™, Deluxe PhotoLab™, and DCTV Paint™ together with the goal of developing the most awesome paint and animation software ever for the Amiga. After many man-years of inspired design and programming, it is simply...

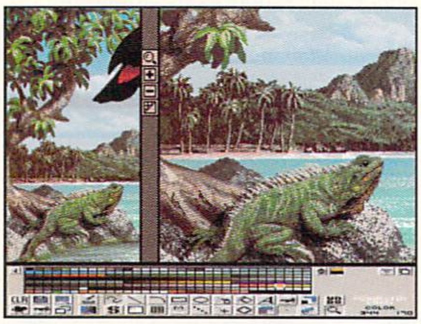
BRILLIANCE!



Artwork by Jim Sachs. Created at 640x480 in 256 colors on an Amiga 4000.

IT'S AMAZING...

By far the best paint program ever created for the Amiga. Paint and animation features you wish you had before are here now. You can paint and animate in virtually every Amiga graphics mode including all of the new A4000 modes! Brilliance also has a unique true color mode allowing you to create and modify full fidelity 24 bit pictures. Your Amiga has never shined as bright as it will with **BRILLIANCE**.



IT'S POWERFUL...

Multiple levels of UNDO allow you to experiment without fear. Written in assembly language for the quickest response, smallest program size and the most sophisticated features.

A rich set of drawing modes will unleash your full creative potential. Multiple paint and animation buffers can be worked on at once, limited only by memory. The more memory you have, the better Brilliance becomes. Power, features, sophistication, ease of use, Brilliance has it all.

IT'S EASY...

The user interface was designed to put YOU in control, not the program. Quickly and precisely control all paint and animation features with the dynamic menuing system. It gets out of your way at the press of a button. A help window assists in identifying controls as well as current modes. The stacking menu bars can be user configured and recalled with function keys. You can even save your own configurations.

IT'S BRILLIANCE...

Once and for all, in one easy to use package, the total paint and animation system for the Amiga.

Best of all, it's from Digital Creations.

Works with all Amiga models.
Minimum memory requirement: 1 Meg.

Graphics modes supported:
Register based 2, 4, 8, 16, 32, or 64EHB Colors.
6 bit HAM, 12 bit true color, 24 bit true color.

With the new A4000:
Register based 2, 4, 8, 16, 32, 64EHB, 64, 128, and 256 Colors.
6 bit HAM, 8 bit HAM,
12 bit true color, 24 bit true color.

(True color modes are represented with HAM mode displays however they are maintained in full fidelity internal representations.)

DIGITAL CREATIONS

P.O. Box 97, Folsom CA 95763-0097 • Phone 916•344•4825 • FAX 916•635•0475



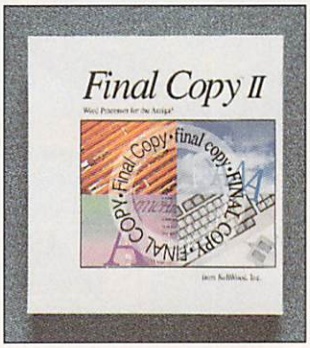
light the word the cursor is on, use the command:

Type '{alt}{left}{shift}{alt}{right}'

Generally, if an effect can be achieved manually with the Shift, Ctrl, or Alt keys and a cursor (arrow) key, it also can be achieved with the Type command.

Andrew Apold has been using Amigas since 1987. He has been Micro-Systems Software's excellence! tech-support representative for more than one year.

Final Copy
SoftWood



SoftWood recently released Final Copy II, an upgrade to its popular Final Copy word processor. The new release incorporates features found in Softwood's older graphics word processor, PenPal. The following tips have been tested with both incarnations of Final Copy.

Q: I'm creating a list of items in Final Copy. I want to mark each of those items with bullets, but Final Copy doesn't seem to have the ability to do so. What can I do?

A: Bullets (•) are special typographical characters commonly used to highlight listed items. Both Final Copy I & II support bullets and other special characters, which you can access by holding down a sequence of keys. For bullets, simply hold down both the Ctrl and Alt keys while simultaneously pressing the 8 key on your keyboard (not the keypad). Here's a list of some of those special characters:

• = Ctrl-Alt-8
¢ = Ctrl-Alt-4
« = Ctrl-Alt-9
» = Ctrl-Alt-0

Q: I have just finished typing a large document in Final Copy. All of my sentences are followed by a single space, and I need to add another space to the end of all my sentences. Short of manually editing the document, is there an easy way to add those extra spaces?

A: Spaces are treated just like other characters in Final Copy. Using the Find and Replace commands in the Extra menu, you can accomplish your task: Simply enter a period and one space (without pressing Return) as the search string, and then enter a period followed by two spaces (again without pressing Return) in the replace string.

Q: Can I use standard Amiga fonts with Final Copy?

A: Unfortunately, neither Final Copy I nor II support standard Amiga fonts; you are limited to using the fonts included with the program or found in SoftWood's SoftFaces add-on packages. That does not mean you cannot import fonts as IFF graphics, however. Using a paint program such as DeluxePaint IV (Electronic Arts), set the screen resolution to match your Final Copy document (commonly 640×200 or 640×400 resolution), choose your font style and create your text. Save that text as an IFF brush, then import the text into Final Copy using the Insert IFF-ILBM option in the Graphics menu. Keep in mind that this procedure works best with small chunks of text (such as headlines and pull quotes), and that your imported graphics will be treated as any IFF graphic, lacking the smooth output of Final Copy's standard outline fonts.

On a related note, Final Copy I users can emulate some of the drawing tools found in Final Copy II by using their favorite paint programs. Perfectly vertical and horizontal lines will import well as graphics from a paint program into Final Copy I, allowing users to dress up documents with the visual accents, page breaks and other benefits that well-placed lines can provide. Remember, however, that Final Copy II's drawing tools create structured graphics, which output much better than the standard bitmap images that most Amiga paint programs create.

Q: I use Final Copy with a dot-matrix printer. My printouts sometimes appear smudged, as if someone had rubbed a finger across the lines of text. What's going on?

A: Customizing the print density settings in Final Copy's Print requester can help. Dialing down the density results in the print head spending less time going over each line of text, with a reduced chance of smudging. However, a reduction in density often means a reduction in print quality, so you may want to tinker with the settings until you find a happy medium.

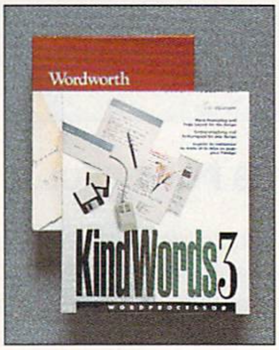
Smudging can also result when the print head of your printer is too close to the paper, causing it to drag lightly as it moves. This is particularly likely when using thick paper stock, envelopes, or mailing labels. Many dot-matrix printers allow you to adjust the distance between the print head and the print material; check your printer documentation for details.

Finally, your printer ribbon could be overly or unevenly inked. Fresh ribbons are often too saturated with ink, and while new ribbons usually have an even distribution of ink, re-inked ribbons may have clumps. Using a drier or slightly worn ribbon may produce crisper output.

Jeff James, a frequent contributor to AmigaWorld, *is a Technical Journalism major at Colorado State University. He's been using Final Copy, one of his two favorite word processors, since it was released.*

KindWords3
The Disc Company

WordsWorth
Digita International



KindWords3 and WordsWorth are actually two versions of the same program, developed in the UK by Digita. KindWords has been available for several years through The Disc Company in California. WordsWorth, on the other hand, has shown up just recently in the US through American Software Distributors.

The following tips work with both packages, even though we use only the name KindWords. ►

All photographs are of actual DCTV screens.

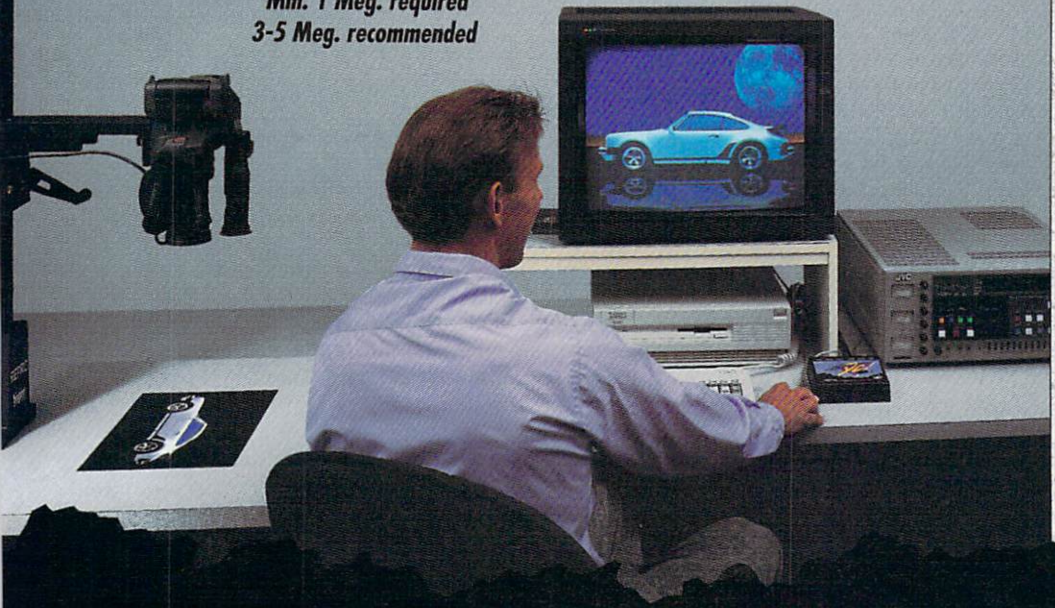
Now Available in PAL

The Future Is Here!

- ▲ Paint, digitize and display beautiful full color composite video images on any Amiga.®*
- ▲ Capture an image in 10 seconds from any color video camera. (Also works with still video cameras, video disk and still frame capable VCR's.)
- ▲ Convert DCTV™ images to or from any IFF display format (including HAM and 24 bit).
- ▲ Full-featured paint, digitize and conversion software are included. DCTV™ is a complete system, right out of the box!
- ▲ Create spectacular 3D images and animations. Compatible with all popular 3D programs.

$495

**Min. 1 Meg. required*
3-5 Meg. recommended





Digitize and process full color composite video images in millions of colors.



Sophisticated true color video paint, digitizing and image processing software are all combined into one easy to use package.



Create beautiful full color video images with all popular Amiga 3D programs.



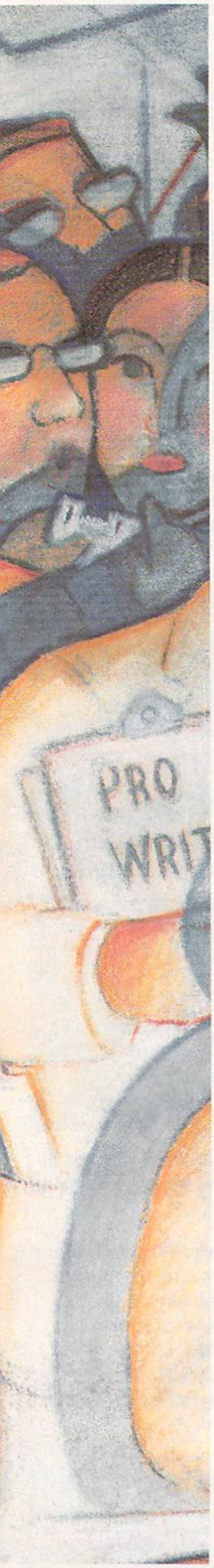
Animate video quality DCTV images in real time using popular Amiga animation creation tools.

DCTV (Digital Composite Television) is a revolutionary new compressed video display and digitizing system for the Amiga. Using the Amiga as a compressed video buffer, DCTV creates a full color composite video display with all the color and resolution of television.

DIGITAL CREATIONS

Telephone 916/344-4825 FAX 916/635-0475

Circle 16 on Reader Service card.



Q: The Install On Floppy Disk option in the Installer on KindWords' Extras disk does not seem to work. What's wrong?

A: When installing KindWords onto a floppy with the Installer utility, you will be asked to insert the Extras 1.3 (Extras 2.0 if on Workbench 2.0) and Extras disks at different times. A common mistake is to get the two disks confused. Extras 1.3 and Extras 2.0 refer to your Amiga Operating System disks—for release 1.3 and 2.0, respectively. On the other hand, Extras (without a suffix) refers to the one from the KindWords3 package. Inserting the wrong disk during installation may cause the process to fail.

Q: What kinds of fonts can I use with KindWords3?

A: KindWords3 can use any standard Amiga font, including ColorFonts. Most of the fonts that come in the KindWords3 package are supplied on the Extras disk. If you are working from floppy, ideally you will want to assign the fonts drawer to Extras:fonts. Doing this allows you to print using KindWords' UltraPrint High or Super modes, which produce great-looking fonts on any Amiga-compatible dot-matrix printer. (It is important to note that this fonts: assignment points to the new drawer selected, and that this will affect other programs that use fonts.)

You can select ColorFonts from KindWords' Typeface requester as you do normal Amiga fonts. When you do, a requester appears asking you if you wish to use the ColorFont's own palette on screen. Please note that while Workbench 2.0 uses ColorFonts directly, Workbench 1.3 requires a special program to be run first. This program is supplied with several Amiga packages, including DeluxePaint.

If you buy additional fonts and want to use them with KindWords3, follow this procedure to copy them into the fonts drawer:

From the Shell or CLI, use the COPY command to place your new fonts into the fonts drawer on your Extras (if you are working from floppy) or hard disk. For example, if all the files are stored in a drawer called NewFonts, type "COPY df0:NewFonts fonts:all." If not, copy the individual font files by typing "COPY df0:FontName fonts:" where FontName is the name of a specific drawer of font sizes. Then type "COPY df0:FontName.font fonts:" to duplicate the font definition. If you wish, use FixFonts (in the Workbench's System drawer) to reorganize them in the drawer.

Q: I don't have a hard drive, and I get tired of swapping my data and Extras disks. Any suggestions?

A: Floppy users using the fonts drawer on the KindWords3 Extras disk may find it easy to save documents onto Extras because this reduces swapping. Making a copy of Extras and then deleting the documents drawer and Installer utility frees up space for documents. (Be sure to use a copy, though—do not delete files from the original!)

Q: When I'm typing with a small font and then change to a larger one, the screen shows only the bottom half of the larger characters. What's happening?

A: Make sure the Line Spacing setting is on Auto Single. This will automatically adjust the line spacing according to the current font size.

Q: How come KindWords3 does not save printer settings when I use the Save button in the Print Document requester?

A: To save printer settings as default settings select the Save button in the Preferences requester from the Extras menu.

Q: Why won't KindWords3 print in UltraPrint High or Super modes?

A: Most likely, KindWords3 cannot locate the larger font sizes needed to print in High or Super modes. If you are working from floppy disk, you will need to change the current font directory in the Typeface requester to the fonts directory on the Extras disk. To do this type "Extras:fonts" in the Drawer string gadget in the Typeface requester.

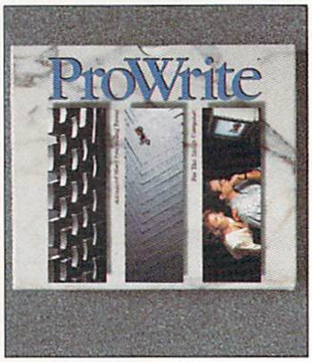
Q: When I change a value in any of the requesters—for example the Print Pages From…To…option in the Print Document requester—the new settings are ignored. Why?

A: Whenever you enter a new value in any of the numeric gadgets in any of the requesters, be sure to press the Return key. Otherwise, KindWords will not recognize the change.

Mike Rivera provides technical and marketing support for KindWords3 at The Disc Company.

ProWrite

New Horizons Software



Since the first version was released in 1987, ProWrite has had numerous enhancements. As ProWrite's power has evolved, so has its complexity. While these tips are primarily aimed at owners of ProWrite 3.3, many apply to version 3.2 as well.

Q: I know that ProWrite offers shortcuts, can you tell me about some of them?

A: ProWrite has a number of shortcuts. Here are a few you might not be aware of:

Holding down the Alt key while dragging either the left-indent or left-margin marker on the ruler automatically drags both markers.

Double-clicking on the horizontal ruler anywhere outside of the active regions hides the ruler icons while keeping the ruler visible. This is handy when you want more of the window available for your text, but still need to set margins or tab stops. Double-clicking again brings the icons back.

Double-clicking on a picture brings up the image's Picture Settings requester, where you can adjust the images' text wrap, size, and name.

Clicking on the page indicator at the bottom left of the window summons the Go To Page requester.

Q: Can you offer any advice to make working with outline fonts faster and easier?

A: Sure. Normally, ProWrite builds a font when you first use it (usually when the document is loaded). This initial build can be slow, but once built the font stays ►



Bill's TOMATO GAME

More puzzling than a Picasso!
More action than a hedgehog in a blender!
More passion than a soap opera!

It's Bill's Tomato Game!

Meet Terry and Tracy, an everyday pair of walking, talking tomatoes caught up in the unlikely tale of rivalry, evil squirrels, mystical lands and err um . . . tomato love.

Over 100 levels, puzzles galore, 45 tunes and more than 2MB of graphics! Ketchup with Bill's Tomato Game, at your local computer store today!

And you thought Tomatoes couldn't climb trees!

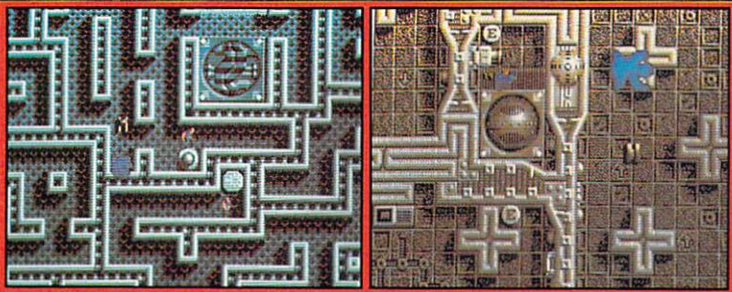


PSYGNOSIS



CYTRON

Red Alert! Red Alert! Research center has been breached!
Android workforce out of control!
Activate your dual-control Cytron Robot!
Blast the rogue androids!
Save the trapped scientists!
Complete your mission before the complex self destructs!
Lightning action and intriguing puzzles make Cytron the battle game to beat! Check it out today!





PSYGNOSIS
29 Saint Mary's Court,
Brookline, MA 02146
Telephone: (617) 731-3553
Fax: (617) 731-8379



in memory for instant access. If there are sizes you use often, you can eliminate this initial delay by building and saving the font using the Amiga's Fountain program. Once you do that, ProWrite will load the prebuilt font rather than build it from scratch.

If there are font sizes you use regularly, but not often enough to justify prebuilding, you can use Fountain to have those sizes listed in ProWrite's Font requester. Then you can select a size just by clicking on it rather than having to type the number.

Q: How can I use ProWrite to get the best from my printer?

A: If you always print in Normal or High quality, turn off the Aspect Adjusted setting in the Page Setup requester, and set the print density to a fairly high value (at least 150×150). This can improve your printouts dramatically, particularly when using outline fonts.

If you are doing NLQ or Draft printing, you should turn on the Print Pictures setting (in the Options section of the Print requester) even if there are no pictures in your documents. This enables advanced paper handling in NLQ and Draft modes—for things like 1½-line spacing and side-by-side columns with different line spacings.

ProWrite can print documents using your printer's built-in fonts (using the Draft and NLQ settings), using outline and bitmap fonts (using the Normal and High quality settings), or to a PostScript printer. Even though ProWrite is primarily a graphics-based word processor, it does very well with NLQ and Draft modes. Using outline fonts gives you very high-quality printouts even on dot-matrix printers.

Q: How does ProWrite integrate with other programs?

A: You can use Flow (New Horizons' outline processor) to create an outline for your manuscript, which you can then load directly into ProWrite.

You can use the HotLinks feature of ProWrite to tightly bind ProWrite with other HotLinks-capable programs. For example, rather than including rudimentary drawing tools, ProWrite allows you to use HotLinks to make it work together with a full-blown graphics program as an integrated whole.

Even if your other programs do not support HotLinks, you can still exchange text and pictures with ProWrite through the system clipboard. Simply cut (or copy) the information from ProWrite and paste it into the other program (or vice-versa).

Q: I know that ProWrite has a sophisticated ARexx implementation, but I don't know ARexx at all. Can you give me a simple application example that I can use as a starting point for more advanced uses?

A: You can use ProWrite's ARexx system to assign shifted function keys to menu commands, even if you are not familiar with ARexx. As an example, if you wanted to assign Shift-F1 to the Print Preview command, follow these steps:

1. Create a new document containing only the following two lines:

```
/* Print Preview example */

PrintPreview
```

2. Save this document in the same drawer as ProWrite, with the name Print Preview, using the Text Only format (with line feeds after every paragraph).

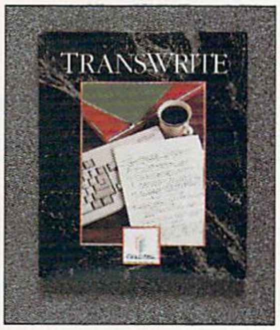
3. Choose Customize from the Macro menu, and in the first entry type Print Preview (the name of the file you just saved). Then click on Save.

That's all there is to it. Now to get a print preview, simply press Shift-F1.

James Bayless is president of New Horizons Software.

TransWrite

Gold Disk



TransWrite, a fast text processor, is now bundled with other Gold Disk products in addition to being sold by itself. The answers to some of these common questions point to lesser-known program features; others offer time-saving tips.

Q: How do I put blank lines at the beginning of a document when printing?

A: Normally, TransWrite ignores any blank lines at the start of your document, just as it ignores extra space between page breaks. This assures that text fills the pages without unwanted gaps.

In order to force TransWrite to recognize the blank lines, put a hard space character (Ctrl-Space) at the very beginning of the document. TransWrite considers this to be a printable character, but it shows up as an ordinary space in the printout.

Q: Is there a quick way to highlight a word or two from the keyboard?

A: The standard keyboard alternative to the mouse click-and-drag is to press F5 at the start of the range of text, then press Shift-F5 at the end. An even quicker shortcut for marking a single word is to just do a cut and paste: hold the Right-Amiga key and press W then P (cut Word/Paste). Press W repeatedly to include more than one word in the highlighted region.

Q: How do I create "hanging indents?"

A: Hanging indents print the first line of a paragraph to the left of the margin. They are useful when numbering or labeling sections of text.

To add them, use TransWrite's "§pi" (paragraph indent) command in conjunction with "§lm," the left margin command. (The "§" character, Shift-Alt-S, is used in TransWrite to introduce a formatting command.) To hang the start of a paragraph out by five characters, for example, you would use the command "pi-5." If you put the command "lm+5" on the same command line to increase the left margin of the text by the same amount, the body of the text will be indented but the first five characters will be aligned with the rest of the document. To switch back to normal, use "§pi+5:lm-5."

Q: If I turn off my printer after using it with TransWrite, ►

DESKTOP SPACE EXPLORATION HAS LANDED!

CHOOSE VISTAPRO...

AND MAKE YOUR EXPLORATION UP CLOSE AND PERSONAL

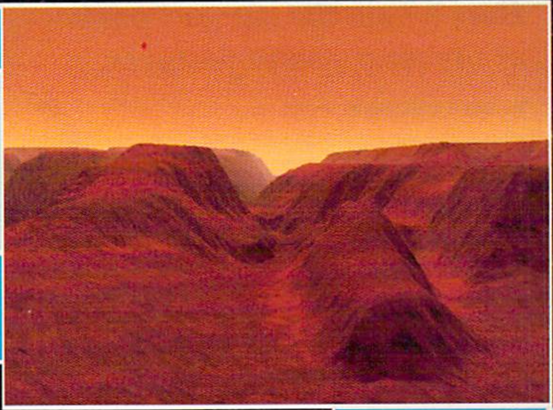
Based on real-world data obtained from NASA spacecraft and The U.S. Geological Survey, Vistapro allows you to accurately recreate and explore real-world landscapes in vivid detail.

FEATURES
- Complete control of camera viewpoint with easy point-and-click interface.
- Gouraud shading produces painting-quality scenes of unparalleled beauty.
- Direct 24 bit output
- User-definable colors, clouds, tree line, tree types, snow line, waves, haze, lakes, rivers, etc.

LANDSCAPES
- Included: The cauldera area of Olympus Mons – Mars, Yosemite, Mt. St. Helens, Crater Lake, various California sites.
- Many other landscapes available, call for info.

MAKEPATH – Advanced animation utility for use with Vistapro $25.00 with coupon in box.
TERRAFORM – Landscape editing utility for use with Vistapro $25.00 with coupon in box.

Vistapro retail: $99.95.





Right and Below: Valles Marineris, Mars before and after Terraforming.

The grand master of science fiction, Arthur C. Clarke warns Stanley Kubrick, "If you get Vistapro into your computer, you'll never do any more work! It produces images of almost photographic quality... So I can explore all the interesting places on Mars!"

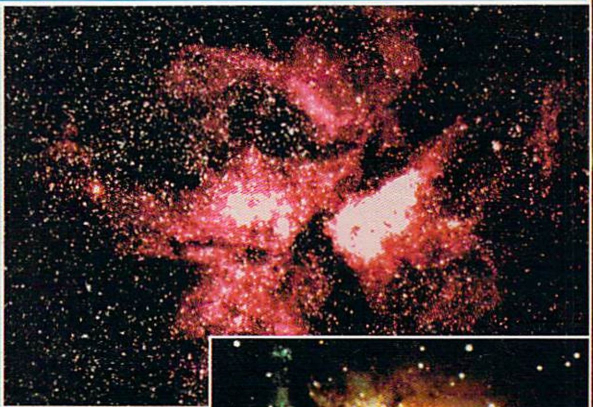
...OR CHOOSE DISTANT SUNS...

AND MAKE YOUR EXPLORATION REALLY FAR OUT.

This Virtual Reality Observatory is a beautiful and well thought out balance between solar system and deep sky display.

FEATURES
- Realistically displays the night sky from 4713 B.C. to 10,000 A.D.
- Displays up to 9100 stars (expandable to 250,000!), 450 galaxies, nebulas and star clusters.
- Add up to 3,000 custom objects.
- Move your viewpoint from earth out into the solar system.
- Reproduce eclipses, show lunar phases.
- Unique feature provides point-and-click linkage between planetarium objects and full screen solar system and deep sky photos.

Distant Suns retails for $99.95.





"I'm really boggled – it's beautiful, especially when the lights are off. I'm totally awed by what you have done!"
Arthur C. Clarke, 2001: A Space Odyssey

For more information, or the name of your nearest distributor contact:

Virtual Reality Laboratories
2341 Ganador Court
San Luis Obispo, CA 93401
(805) 545-8515

UNLEASH THE POWER OF YOUR YOUR IMAGINATION!

The Powers of the Words

Here's how the current packages compare in terms of the most useful features.

By DAVE JOHNSON

	TransWrite ($69.95) Gold Disk	Scribble! ($39.95) Micro-Systems	Final Copy II ($159.95) Softwood Company	excellence! 3.0 ($99.95) Micro-Systems	ProWrite ($99.95) New Horizons	QuickWrite ($75) New Horizons	KindWords3 ($124.95) The Disc Company	Personal Write ($49.95) Cloanto/Centaur	WordsWorth ($159.95) Digital/American Software
FONT HANDLING									
WYSIWYG[1]	Y	N	Y	Y	Y	Y	Y	N	Y
Amiga System Fonts[2]	N	N	N	Y	Y	N	Y	N	Y
Compugraphic Outline Fonts	N	N	N	Y	Y	N	Y	N	Y
Easy Access to Special Characters[3]	N	N	N	limited	Y	N	N	N	Y
PRINTING									
PostScript Support	N	N	Y	Y	Y	N	N	Y	Y
Page Preview	Y	N	Y	Y	Y	N	N	N	Y
High-Resolution Printing[4]	N	N	Y	N	Y	N	Y	N	Y
DOCUMENTS									
Multiple Columns	N	N	Y	Y	Y	N	N	N	N
Mail Merge	Y	Y	Y	Y	Y	N	Y	Y	Y
Speed[5]	2	3	4	5	9	7	6	1	8
FILE MANAGEMENT									
Save as ASCII	N	Y	Y	Y	Y	Y	Y	Y	Y
HotLinks Support[6]	N	N	N	N	Y	N	N	N	N
Backup[7]	N	N	B	B&AS	B&AS	B&AS	B	B(RAM:)	B&AS
GRAPHICS									
Combine Text and Graphics	N	Y	Y	Y	Y	N	Y	N	Y
Text Wrap Around Graphics	N	N	Y	N	Y	N	Y	N	Y
Resize/Reposition Graphics	N	N	Y	size only	Y	N	Y	N	N
UTILITIES									
Dictionary	90K	104K	144K	140K	100K	50K	100K	–	116K
Thesaurus	–	470K	1.4M	1.4M	300K	–	470K	–	140K
Grammar Checker	N	N	N	Y	N	N	N	N	N
Generate Index, Footnotes, etc.	N	N	N	Y	N	N	N	N	N
Macros[8]	K	–	A	K&A	A	A	–	–	–
Workbench 2.0 Compatability[9] ASL File Requester	N	N	N	N	Y	Y	N	N	N
Appicon	N	N	N	Y	Y	Y	N	N	N
Kickstart 2.0 Resolutions	N	N	Y	Y	Y	Y	N	N	N

Key to the chart:

1 WYSIWYG (What You See Is What You Get): Program depicts a document on screen as accurately as possible by displaying custom fonts, special characters, and other elements as they should appear on paper.

2 If No, the program uses printer fonts only or (as in Final Copy) requires its own proprietary fonts to operate.

3 A special requester helps you insert unusual characters in the document that are not generally found on the keyboard.

4 Program uses a special routine to print documents at high resolution without PostScript, even on low-resolution dot-matrix printers.

5 In order to gauge the relative speed of each word processor at tasks other than typing, a search and replace operation was performed and 1000 occurrences of the word *apple* were replaced with the word *orange*. Programs were ranked from 1 (fastest) to 9 (slowest).

6 HotLinks is a file protocol established by Soft Logik's PageStream 2.2 layout software. It notifies PageStream when text and graphic files it subscribes to are changed and updates them automatically in the layout.

7 Program can make a backup (B) before saving a file, and save files automatically at specified intervals (AS).

8 Macros are commonly of the keystroke (K) or ARexx (A) variety.

9 Some programs claim Workbench 2.0 compatibility but actually take advantage of no specific 2.0 features. We wanted to know:

Can the program use the ASL file requester, including replacements such as those written by Stefan Stuntz and Khalid Aldoseri?

Does the program use an Appicon? This is a box on the Workbench into which document icons may be dropped. The document loads automatically into the word processor without starting additional copies of the program.

Can the program adapt to ECS screen resolutions such as Productivity mode?

Update Notes:

The Amiga and its software continue to evolve faster than ever. Custom PostScript support should not be an important issue with the availablity of AmigaDOS 2.1, which at long last includes a PostScript printer driver.

With the advent of the AGA chips, an important feature to consider is the capability to display in 256 colors or more. The first word processor to take advantage of this is ProWrite 3.3.

Watch the Overscan and Reviews sections for forthcoming information on word-processor updates; there's sure to be more soon!

Dave Johnson, a frequent contributor to AmigaWorld, *has written reviews of almost every Amiga word processor on the market.*

it forgets what font and letter quality to use. Why is this and how do I fix it?

A: Amiga printer drivers do not pass along TransWrite's printer setting information if they think the printer is already in the correct mode. If you turn your printer off (perhaps to fix a paper jam), the printer driver does not know that the printer lost the settings and so does not automatically resend them.

The simplest solution to this—simplest, that is, short of rebooting—is to print some text with different settings (use TransWrite's Printer Settings requester), and then switch back to the desired settings to print your document.

Q: I use Gold Disk's Professional Page 3.0 desktop-publishing program. Can I use TransWrite with it instead of the supplied Article Editor?

A: Yes. If TransWrite is running when you select Article Editor from Pro Page's Edit menu, the TransWrite screen will pop to the front and work just like Article Editor, except that you'll have TransWrite's additional features.

Q: How come some pages print out with more lines than others?

A: By default, TransWrite suppresses "widows" and "orphans," single-paragraph lines stranded by themselves at the top or bottom of a page. You can turn off this feature with the formatting command "§wo-," though it is rarely desirable to do so.

Q: When saving a WordPerfect document, TransWrite sometimes asks the WordPerfect version number. Why doesn't it always ask?

A: If your document was loaded as a WordPerfect document, TransWrite already learned the version number from the file. If you created the document in TransWrite, however, it has to ask what format to save it in.

Q: What are your favorite shortcuts?

A: We have several:

For a more readable screen display, hold the Right Amiga key and press the + key two or three times.

Use the Delete key as a shortcut for the Cut (Right Amiga-X) feature.

Use Shift-Ctrl-C to restore your previous cursor position after repositioning.

To print a line of underlined spaces, put a hard space at the end.

Use bookmarks to easily jump to set positions in your document. Press Shift in combination with one of the first four function keys to set; and F1 through F4 alone to use.

When working with text styles, press F9 to edit style on/off codes directly.

A useful macro to put headings in bold: Right Amiga-D, Right Amiga-P, Shift-Right Amiga-B, cursor down.

Spaces at the start of a paragraph are ignored by Professional Page; use a Tab character (Ctrl-T) instead.

Use Shift-F6 to close the TransWrite display but keep the program available for use at any time.

Chris Zamara and Nick Sullivan, who together wrote TransWrite (in addition to scores of other programs), comprise AHA! Software.





WordPerfect

WordPerfect Corporation



WordPerfect is a standard on several platforms. These tips are particular to the Amiga version.

Q: How do I import and export WordPerfect files from the IBM or Macintosh?

A: To import: The file must be saved as an IBM 4.2 file. Using some kind of DOS-translation program or a modem, copy the 4.2 file to an AmigaDOS disk. While in WordPerfect, select Import from the Project menu or use the Text In/Out key (Ctrl-F5) to import the file.

To export: Save the file (using the standard Save command rather than Export) to an Amiga disk and use a DOS-translation program to copy the file to an IBM or Macintosh disk. WordPerfect 5.0 and 5.1 for DOS, WordPerfect 2.1 for Macintosh, and LetterPerfect will import the file directly (as WP 4.2 files) and retain all formatting. WordPerfect 4.2 for DOS and WordPerfect 5.1 for Windows will import the file as a WP 4.2 file and remove any italics.

Q: I got the message "Error can't open printer device" when I tried to print. What happened?

A: This message appears when you try to print through Preferences without a Preferences driver for your printer. Go into Print Control (Shift-F7-3), and click on Select Printers. Then double-click on your printer to bring up the Printer Options screen. Change your destination from #1 Printer Device to #2 Other Device or File. Then type PAR: to indicate your parallel device (or SER: if your printer is serial) in the box below. Accept and save everything, and try printing again.

Q: How do I copy printer drivers from one Print disk to another?

A: First rename the disk you are going to copy to (something other than Print) and place that disk in df1:. Then load the PrintDef program on your hard drive or another Print disk (which should be in df0:), and select Printer Code Definitions (3). Scroll down until you find the printer that you want to move, and press Shift-F10. Click on OK to copy the definition to df1:. Exit out of PrintDef, remove the disk from df0:, and rename the disk in df1: back to Print.

Q: Can a macro replace a file?

A: No, a macro cannot say "Yes" to replace a file. The only way around it is to exit WordPerfect and double-click the Setup icon. Select Confirmation Options (option B), and turn File Replacement off (uncheck it).

The only drawback to this setting is that WordPerfect will subsequently never ask if you want to replace a file.

Q: I can see the Print Control menu, but nothing will print. What should I do?

A: If you are trying to print with WordPerfect 4.1.12, the Print Control will appear but the status says "n/a" and nothing prints. Check your version of Print (select Control from the Print menu and press Help). You must be using 4.1.12 (1/15/91) of Print when printing from WP 4.1.12. No other releases will work.

Q: Why won't Speller skip words or let me add words to my dictionary?

A: You can choose to add words to your dictionary. These words are added to a supplemental dictionary (SUP.WP) that can hold up to 4096 bytes of information. Once you reach this limit, the Speller will no longer skip or add words when checking a document.

Q: Why won't my tabs, justification, and column settings print correctly with my Postcript printer?

A: To ensure that your formatting prints correctly, choose the recommended pitch and font settings outlined in the Readme.Print file on your Print disk.

Incidentally, the leading Amiga desktop-publishing packages directly import WordPerfect Amiga files so you can add fonts and graphics to your document.

Q: Can you give me a brief rundown of keyboard shortcuts?

A: The following are used with the Left Amiga key:

- **I** Block from the cursor to the end of the word.
- **O** Block from the cursor to the end of the sentence.
- **P** Block from the cursor to the end of the paragraph.
- **J** Block from the cursor to the beginning of the word.
- **K** Block from the cursor to the beginning of the sentence.
- **L** Block from the cursor to the beginning of the paragraph.
- **N** Bring Workbench to the front.
- **M** Send Workbench to the back.

You can also press Right Amiga with these:

- **X** Cut blocked text.
- **C** Copy blocked text.
- **P** Paste previously cut or copied text.
- **I** Toggle italics on/off.
- **B** Turn bold on/off.
- **U** Toggle underline on/off.
- **Q** Cancel (same as F1).
- **S** Save a file (same as F10).

Q: I know WordPerfect Corporation will not continue to develop the Amiga version. Will you offer any trade-in policy so I can use the latest version of WordPerfect on my emulator or an other-platform machine?

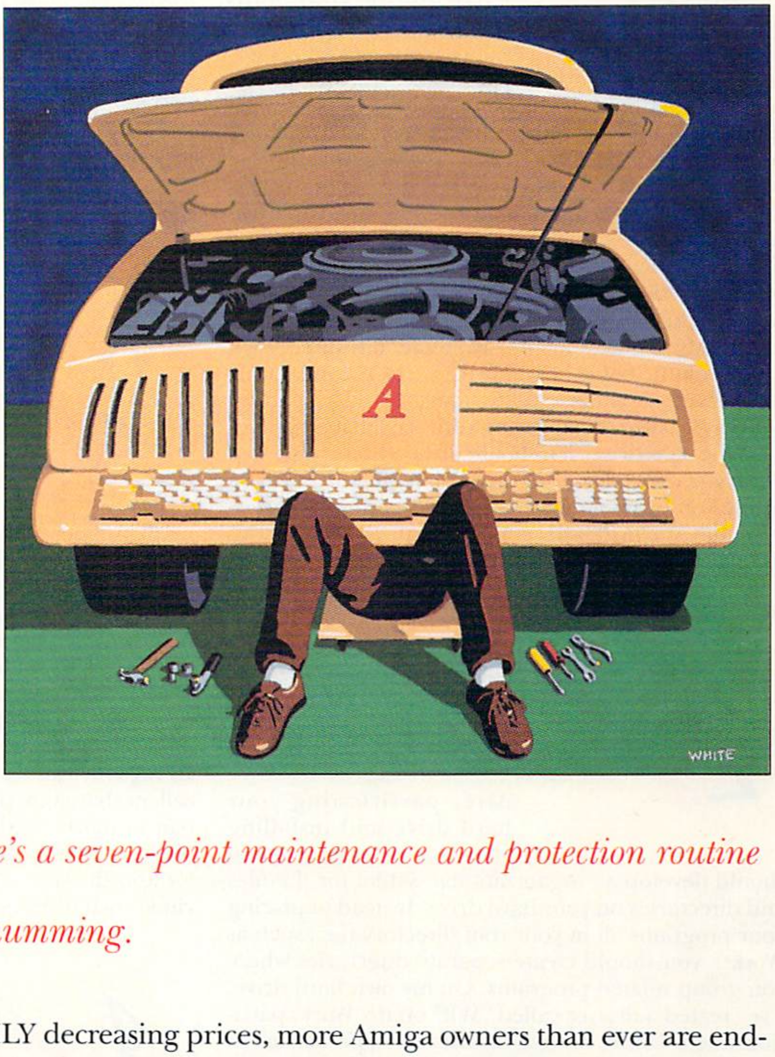
A: Yes. Until June 30, 1993, Amiga WordPerfect customers can do a cross-platform trade to WordPerfect for DOS, Windows, or Macintosh for $150, or to LetterPerfect for DOS or Macintosh for $89.

To take advantage of the offer you must relinquish your original Amiga license number in writing and provide proof of ownership (such as original disks or certificate of license). For details contact:

WordPerfect Corporation
Attn: Angie Williams MS J190
1555 N. Technology Way
Orem, UT 84057
800/451-5151

Liz Tanner and Mike Madsen provide technical and marketing assistance for WordPerfect Corporation. ■

Tune Up Your Hard Drive!



Like a smooth-running car engine, your hard drive can deliver increased power and performance to your system. Here's a seven-point maintenance and protection routine to keep your drive humming.

THANKS TO STEADILY decreasing prices, more Amiga owners than ever are ending the "floppy-disk shuffle" and upgrading to the speed and convenience of a roomy hard drive. While pulling out into the fast lane with your newly revamped system may be the smartest move you've ever made, there are several things to keep in mind. To reap the benefits of increased performance, you must follow a vigorous regimen of drive maintenance and data protection.What follows are seven tips on maximizing your hard-drive investment, ranging from simple organizational techniques to ►

By Jeff James

ILLUSTRATED BY CAROLINE WHITE

advanced data-compression options. Getting the most out of your hard drive doesn't require much time or effort; several of the recommendations listed below involve nothing more than a shareware disk utility and a few minutes of work. Please note, however, that before following any of these suggestions, you should make a complete backup of the data on your hard drive.

1. Partition

Partitioning your hard drive—dividing it into smaller sections—offers several performance advantages. Since the read/write heads of your hard drive do not have to cover as much space to locate files, access time is decreased. Smaller partitions also make backups less of a chore, and the reduced volume size limits file fragmentation. If files do fragment or become corrupted, it is much easier to repair or restore a small partition than the entire drive. Keep in mind, of course, that Amiga models sold with preinstalled hard drives—such as the A2000HD, A2500, and the A3000—usually ship with several partitions. My Amiga 3000, for example, has three, each with a volume name by which AmigaDOS can identify it: Work:, System 2.x:, and System 1.3:.

Because partitioning destroys any data that is currently on the hard drive, you should make a backup (see Tip #7) if you want to save any data that is on the hard drive before you begin. You will also need partitioning software; the Amiga 2000HD, A2500, and A3000 ship with the HDtoolbox utility, while hard drives purchased from other vendors—such as GVP, Supra, and so on—will include software to partition drives.

2. Organize

After partitioning your hard drive and installing your favorite programs, you should develop an organizational system for the files and directories on your hard drive. Instead of placing your programs all in your root directory (i.e., such as Work:), you should create separate directories where you group related programs. On my own hard drive, I've created a drawer called "WP" on my Work: partition where I store my two favorite word processors in their own respective directories. Having an efficient organizational system makes selective backups of individual directories possible, keeps the clutter in your root directory to a minimum, and helps you find things in a hurry.

Moving large numbers of files around your hard drive is facilitated by using file-utility programs such as **Directory Opus** ($59.95, *INOVAtronics*) and **DiskMaster II** ($49.95, *Progressive Peripherals*). Both of these programs excel at moving, deleting, renaming, and finding large numbers of files and directories. In the shareware arena, Timm Martin's **SID2** stacks up favorably against the commercial offerings. (*To locate vendors of the commercial products mentioned, consult the "Manufacturers'/Distributors' Addresses" list on p. 108. Concerning PD/shareware, information on the major telecommunications networks and the Fred Fish Collection is also contained in that list.*)

After you've neatly organized your files in drawers and directories, remove any duplicate or unwanted files and directories. Duplicate files can be found and deleted with the help of the shareware programs **FileSearch** (by Matt Crowd, Fred Fish #531) and **Scan** (by Walter Rothe, Fred Fish #670). Unwanted files should be deleted; files you want to keep—but don't use very often—should be moved to floppy disks for safe keeping.

3. Verify

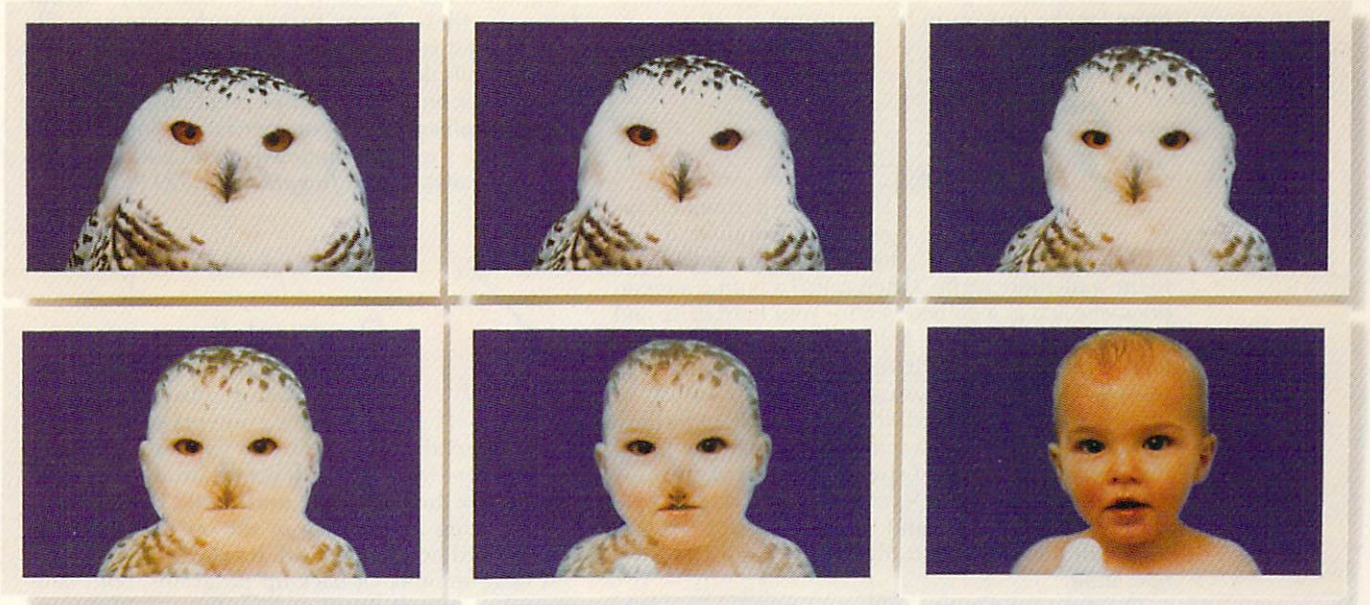
Although the vast majority of space on a hard drive is usable for storing data, a small number of disk sectors may be defective and unsuitable for use. Finding defective sectors and other hard-drive imperfections falls squarely into the realm of disk-utility programs that search for and either repair or mark bad sectors. My favorite hard-drive verification utility is found in **Quarterback Tools** ($89.95, ***Central Coast / New Horizons***), although **Dunlap Utilities** ($49.95, ***Progressive Peripherals***) and **Dr. Ami** ($49.95, ***Free Spirit***) have comparable capabilities. **DFrags** (by Custom Services, Fred Fish #461) is an excellent shareware program that finds—but does not repair or mark—bad sectors. Finally, the HDtoolbox included with AmigaDOS 2.0 features a defective-sector locator, and several other hard-drive manufacturers include such utilities with their hard drives.

4. Optimize

When your hard drive saves data, it will try to store the data on a series of sequential sectors, one after the other. Unfortunately, there might not be enough contiguous sectors to hold all the data, so the drive must find another group of sectors upon which to store the remainder. When you want to use that saved data again, the drive has to jump back and forth among the widely scattered sectors before reading the data into memory.This is where disk-optimization software comes into play: An optimization ►

MorphPlus™

Finally! True Cinematic Quality Morphing For The Amiga®!



ASDG is not the first to advertise "cinematic quality morphing" for the Commodore Amiga®. Having seen the other products, there's obviously more than one way to define that term.

To us, "cinematic quality morphing" means these things:

- **Morphing must be fast.**
In a production environment, time is money. **ASDG's MorphPlus™** is the fastest morphing product available for the Commodore Amiga®. **MorphPlus™** powers through complicated full overscan morphs 3 to 11 times faster than the other products.

Fastest	MorphPlus™
Easiest-To-Use	MorphPlus™
Highest Quality	MorphPlus™

- **Morphing must be easy.**
Experts in the field praise the intuitive design of the **MorphPlus™** user interface which lets them create sophisticated full motion morphs in minutes instead of weeks.

- **Morphing must be high quality**
(so that it truly *can* be used for cinematic or professional video applications). **MorphPlus™** is already in use in Hollywood productions, replacing high end systems.

This is what *we* mean by "cinematic quality morphing."

If these are the criteria *you* would use, then **MorphPlus™** is the choice you should make.

See it at your local dealer!

ASDG

925 Stewart Street Madison, WI 53713
608/273-6585

What's The Plus?



And More!

The following names are trademarked by the indicated companies: MorphPlus: ASDG Incorporated, Amiga: Commodore Amiga Inc.

Circle 4 on Reader Service card.

program combs the sectors on your hard drive, relocating data and programs in sequential, adjacent sectors. Quarterback Tools offers an excellent disk optimizer; while **B.A.D.** ($49.95, ***Centaur***) offers a similar capability. In terms of shareware, **Optimizer** (by Tim Stotelmeyer, Fred Fish #519) does an acceptable job of getting all your data organized. Hard-drive optimization, however, can take some time; users of very large hard drives can expect to wait 30 minutes or more for the process to be completed.

5. Cache

After you've partitioned, organized and optimized your hard drive, your next step is to use a memory cache. Often called a buffer, a memory cache acts as a go-between for your hard drive and system memory. A cache holds information previously loaded from the hard drive in a reserved section of RAM taken from your main system memory. Instead of having to access the hard drive repeatedly to retrieve information, your Amiga can go to the cache and grab the needed data, thus bypassing the hard drive. A cache is particularly effective when used with programs, such as CanDo and WordPerfect, that rely on dozens of smaller support files and programs for their operation.

The most readily accessible and inexpensive disk-caching program is included with your Amiga when you buy it: the ADDBUFFERS program. To use ADDBUFFERS, you need to add the following command to your startup-sequence:

```
ADDBUFFERS <volume name:> 50
```

Volume name refers to the partition—or volume—you want to cache, such as Work:, DH0:, DH1:, and so on. The number at the end of the command specifies how much memory you want the ADDBUFFERS command to use. In this case, ADDBUFFERS will use fifty 500-byte buffers, for a total of 25K.

Unfortunately, ADDBUFFERS does not make a distinction between chip and fast memory. A better option is an older program, BlitzDisk, included in the product TextEd Plus. Unlike ADDBUFFERS, Blitzdisk can be instructed to use either fast RAM or chip RAM for more efficient operation. You may have to do some searching for this one, however, because the manufacturer, Microsmiths, is no longer in business.

6. Compress

After months of using your hard drive, you may begin to run out of room. While it's impossible to increase the physical size of your current hard drive, you can reduce the size of the data that resides upon it. Conventional file-compression tools—such as the shareware **ARC, LHARC, PKAZIP,** and **ZOO** archival formats—work well for compressing infrequently used files. For graphic images, ***ASDG's*** **Art Department Professional** ($240) can load regular IFF images and save them in JPEG format, an advanced graphics-compression format that dramatically reduces the size of stored graphics.

Undoubtedly the most elegant file-compression solution is the shareware program **Power Packer** (by Nico Francois, Fred Fish #253). Unlike other compression programs—which require you to "manually" decompress the files—Power Packer works automatically, thanks to a small decompression routine. Power Packer automatically decompresses compressed files when you double-click on the compressed program's icon. **Power Packer Professional**, a commercial version of Power Packer with speedier compression and additional features, is available from ***JumpDisk*** for $29.95.

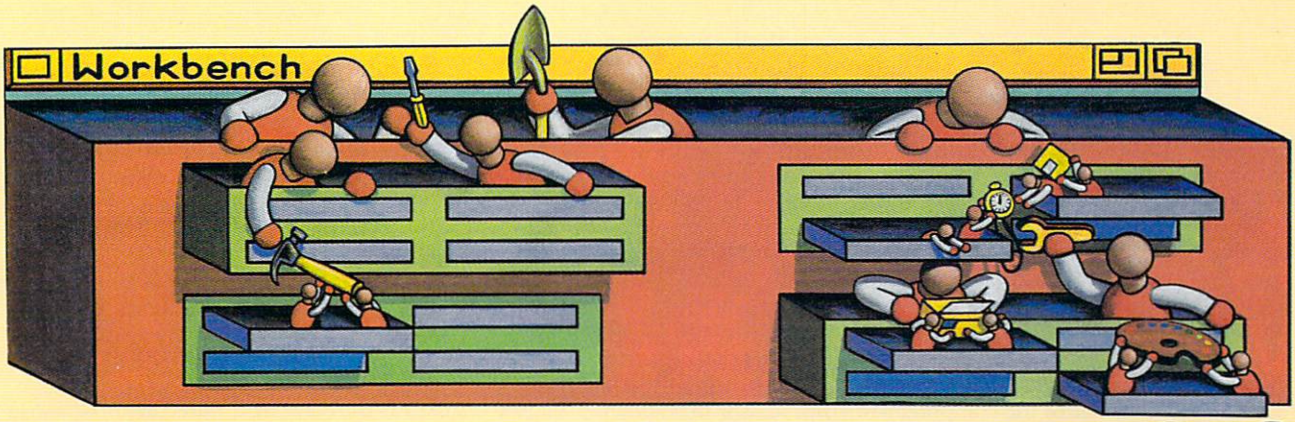
7. Back Up

Last and certainly not least, making a back-up copy of the contents of your hard drive is essential. Murphy's Law applies itself with a vengeance to hard drives: If your hard drive ever decides to bite the dust, it will usually take a year's worth of accounting information or the only copy of your 50,000 word novel along with it.

A large number of back-up programs, both commercial and freely distributable, are available for the Amiga. Two of my favorite commercial programs are **Ami-Back** ($79.95, ***Moonlighter Software***) and **Quarterback 5.0** ($75, ***Central Coast / New Horizons***). Each offers a wide range of back-up features, including support for SCSI tape drives, file-compression options, and many other useful amenities. If you're looking for a basic, no-frills back-up program, the HD-Backup program included with AmigaDOS 2.0 will get the job done. Other hard-drive-equipped Amiga models should also include a copy of HDBackup, and several third-party hardware vendors include their own back-up utilities. In the shareware arena, two excellent back-up programs are **Backup v2.06** (by Matt Dillon, Fred Fish #434) and **MRBackup v5.02a** (by Mark Rinfret, Fred Fish #465), both of which offer an impressive list of features.

Thanks to the growing library of Amiga disk-utility software, getting the most out of your hard drive is easier to accomplish than ever before. Even more useful programs are looming on the horizon; ***Moonlighter Software's*** forthcoming **Ami-Back Tools** utility package should be available by the time you read this. By following a consistently implemented program of hard-drive maintenance in conjunction with a software toolbox stocked with the latest Amiga disk-utility programs, you will be able to squeeze extra mileage and performance out of your hard drive for years to come. ■

Jeff James has been using hard-drive equipped Amigas for more than four years. A frequent contributor to several computer publications, he is currently a student at Colorado State University where he's majoring in Technical Journalism.



Digging in to DOS

A SERIES THAT EXPLORES THE AMIGA'S RELEASE 2 OPERATING SYSTEM

Last month we explored some rules of Workbench 2's all-new "Shell game." In Part 3, we uncover more Shell improvements.

One important new Shell feature is the ability to feed the text output of one command as input to another. Say you want to use the ECHO command to print the total amount of free memory in a line such as "The total amount of memory available is x bytes," where x is the number of bytes. The output of AVAIL can give you this number. By enclosing this command in a pair of back ticks (the back tick character is located on the key just below ESC), you can embed AVAIL within the ECHO command as follows:

ECHO "The total amount of available memory is `AVAIL TOTAL` bytes"

When the Shell executes this command, it performs the AVAIL TOTAL command first, and includes the results in the string printed by the ECHO command:

The total amount of available memory is 965,432 bytes

When you use a back tick command in an alias or prompt string, however, the embedded commands are executed at the time the alias or prompt is defined, not when it is executed. If you tried to create an alias for the above command with

ALIAS free ECHO "The total amount of available memory is `AVAIL TOTAL` bytes"

you would soon find out that the command AVAIL TOTAL is evaluated only once, at the time the ALIAS is defined. If there are 965,432 bytes available at that time, that is the number you will see whenever you issue your new FREE command, regardless of how much memory is actually free at that time. In order to have the embedded command executed each time the alias (or prompt) is used, you must use the asterisk escape character in front of each back tick character. By changing the ALIAS command to

ALIAS free ECHO "The total amount of available memory is *`AVAIL TOTAL*` bytes"

you'll get an accurate tally of free memory whenever you use the FREE alias. ►

BY SHELDON LEEMON

ILLUSTRATED BY BARTON STABLER

You can use the back tick feature whenever the input of one command requires data that is derived from the output of another. If, for example, you wish to send a BREAK signal to a process running the WAIT command to tell it to stop waiting, but you do not know its process number, you can use the STATUS command to find that number and send it to the BREAK signal:

```
BREAK `STATUS Com=WAIT`
```

Feeding the output of a command through ECHO via back ticks lets you use the ability to print only part of a sentence. For example, you can store the model number of the computer's microprocessor in a global-environment variable named CPU with the command

```
ECHO FIRST 9 LEN 5 "`CPU`" TO Env:CPU
```

which discards all but the five-character processor number from the output of the CPU command. Note that `CPU` must also be surrounded by double quotes in order for this command to work properly.

On the Inside

The 2.0 release makes some AmigaDOS commands internal for the first time. More than 30 commands, including RUN, PATH, and NEWCLI, are now right in the Kickstart ROM and need not be loaded from disk.

You still can remove or replace an internal command, however, using the REMOVE or REPLACE options of the RESIDENT command. Just typing RESIDENT by itself will give you a complete list of internal commands.While the CD command is now resident, it is also largely unnecessary thanks to a new Shell feature. In 2.0, just typing the name of a directory at the Shell prompt makes that directory the current one. Many other familiar Amiga commands have taken on new functions, similar to those offered by popular public-domain programs. For example, when you use the optional FLUSH keyword with the AVAIL command, it removes any libraries, devices, or fonts that you had loaded into memory but are no longer using, just as the public-domain Flush program does. Similarly, the SEARCH command has a new FILE option which, like the FileFind program, lets you search your hard disk for a particular filename, rather than for a text string in the file. You could use the following command, for example, to print the full pathname of every file on volume SYS: that ends in ".doc":

```
SEARCH Sys: #?.doc FILE ALL
```

The ASSIGN command also has several handy new options. One of these, the ADD keyword, makes it function as the public-domain PathAssign program, which allows you to assign one logical device name to several directories. This enables you, for example, to assign the FONTS: designation to several additional directories:

```
ASSIGN FONTS: Work:PublishingFonts Work:VideoFonts ADD
```

With this option you can organize your fonts in separate groups while still keeping them all accessible to the system. Commands such as DIR and COPY that use only one target directory default to the first directory to which the logical assignment was made. Therefore, if you want hard-drive installation programs to put more fonts in a directory other than SYS:Fonts, you might want to add a line like this to your user-startup file:

```
ASSIGN Fonts: Work:ExtraFonts Sys:Fonts
```

Other ASSIGN options favor floppy users. The DEFER keyword delays the assignment until a command refers to the logical device. This lets you make the assignment to the user-startup file automatically, without receiving a prompt to insert the specified volume. The PATH keyword is even handier. It creates an assignment that is reevaluated each time you use it. For example, the command

```
ASSIGN C: DF0:C PATH
```

causes AmigaDOS to accept the C directory of whatever disk happens to be in the internal drive as C:. This lets you replace your startup disk with any other disk that contains a C directory, and use the commands in that C directory as if they were on the disk you booted from.

All-New Commands

Besides enhancing existing commands, 2.0 added brand-new ones. One of these, the CPU command, performs all the functions of the public-domain SETCPU program. It lets you control the advanced features of 68030 and 68040 processors. CPU also enables you to turn the data and instruction caches on, for speed, or off, for compatibility. (The 2.1 version also lets you control the copy-back mode of the 68040's data cache.) Further, the command's FASTROM option allows you to copy the Kickstart ROM image to 32-bit memory, provided you have a Memory Management Unit. This boosts overall speed slightly.

Another new command, MAKELINK, lets you create a file pointer in one directory that points to a file in another directory within the same volume. This allows one program to be found in several directories at once, without taking up much space. For example, the icons for document files that come with public-domain or shareware programs can specify one of several text display programs—C:More, C:MuchMore, C:Less, etc. You could modify the icons on each of those document files to reflect the display program you have, but an easier way is to create links in your user-startup file:

```
MAKELINK C:More SYS:Utilities/More
MAKELINK C:MuchMore SYS:Utilities/More
MAKELINK C:Less SYS:Utilities/More
```

This way, a project icon that looks for any of the default tools named above will be directed to the SYS:Utilities/More program. Instead of four text display programs, you need only one. Keep in mind, however, that for now you can create links only between directories on the same volume.

These are just some of the important changes made to the AmigaDOS Shell under 2.0. For every improvement I've mentioned, there are one or two others that I haven't had room for. There is much in Release 2 for CLI fans to cheer about. Not only that, but improvements keep on coming. Just wait until you see the RequestChoice and RequestFile commands in Workbench 3.0! That, however, is a story for another day. ■

Sheldon Leemon is a respected authority on the Amiga and is currently finishing a book about Workbench 2.0. Write to him c/o AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458.*

1992 SOFTWARE AWARDS

The Best of Free

You've heard of Emmy, Obie, Grammy, and Tony...so why not "Freebie" Awards?

Join our gala affair honoring the best freely distributable software of 1992.

The first envelope please...

A simple software fact of life is that there are many kinds of programs for which therejust are no commercial counterparts. This is what has made—and keeps making—freely distributable Amiga software so exciting. You never know what little gem of a program you'll discover each day. No one issues press releases and there are no glossy ads to drool over. Freely distributable (FD) software just kind of shows up; while the mediocre stuff fades from memory, news of the good stuff's power and usefulness quickly spreads over the wires, through user groups, and—all too rarely—in articles like this one.

Of course, even with seven years of FD software history, there's still no freely distributable paint program that can hold a candle to DeluxePaint, a shareware desktop publisher that can touch PageStream or Professional Page, or a free word processor that can really compete with the best commercial offerings. There are simply some flavors of software that take so much work to produce, both in design and in programming, that not only ►

By Harv Laser



ILLUSTRATED BY LAURA CORNELL

would it be a monumental one-person job, but also it would be unlikely to find many developers willing to invest that much of their time and talent in a product for which they may see just a pittance in shareware dollars.

1992: Slow but Steady Progress

Evolutionary, not revolutionary, is an apt description for 1992 when we look back at the body of freely distributable Amiga software released. Many excellent programs appeared in the last twelve months, but the number of jaw-dropping-gotta-have-it titles was small. There are a number of reasons for this. For one, as the Amiga has matured, many developers who used to release their software free for the taking have shifted to producing commercial packages, or have gone to work for established companies and just don't have the time anymore. For another, when Workbench 2.04 appeared, it eliminated the demand for all those little utilities needed to make 1.3 do things that it didn't do right out of the box.

So what follows are my picks of the best of the best of the freely distributable software released in 1992. To source these titles, check the Fred Fish disk collection, consult the catalogs of "public-domain" disk sellers, or, fastest of all, fire up your modem and download them from your favorite BBS or commercial service. And support those shareware authors. Without them, using an Amiga would be a lot less fun. *(Editor's Note: The term "freely distributable" [FD] software encompasses a number of different categories of programs. See the sidebar "FD Software: Facts and Sources" for a clarification. Also included there is information about sources from which to obtain FD software.)*

You'll find no artwork here. No animations or musical compositions or games. I've also left out any software that is distributed in a "crippled" form with missing features supplied only when a contribution is made. This is a pack of truly useful and usable programs, developed by some very talented folks, which I think you'll enjoy using.

My picks also are not intended as an all-inclusive list. There just isn't enough space here, and my tastes will certainly differ in some ways—or perhaps completely—from yours. But before sitting down to write this, I talked to a lot of power users and just plain Amiga folks to get their opinions. All had their personal stable of freely distributable favorites that they just couldn't live without, and no two were the same, but in my nonscientific survey, almost everyone mentioned one or more of these programs as a must-have.

So, in no particular order, here are the 1992 selections:

LhA Version 1.38 (or higher)
Stefan Boberg
Archiving and compression
Shareware

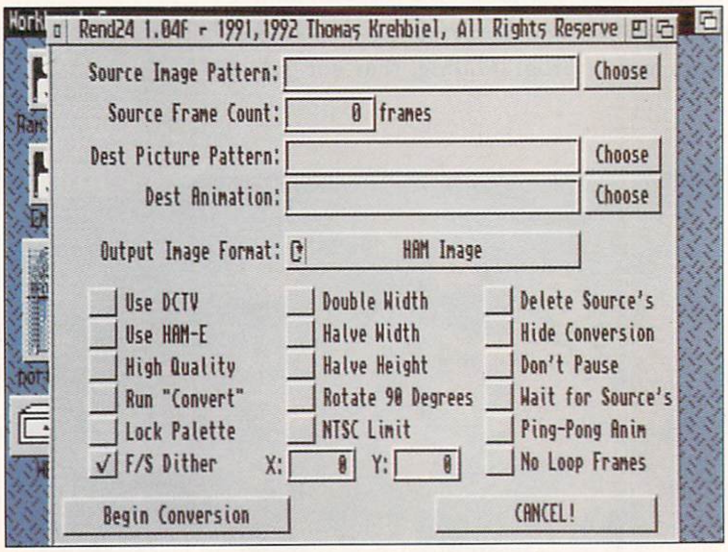
My hunch is that more people use LhA every day than any other single user-written utility. It's an archiver/librarian/compression program used to pack single or multiple files for storage or transmission by modem. It can deal with archives whose filenames end with .LZH or .LHA, and it's faster than any other "LHARC" file manipulator—so you can safely throw away the older ones.

These kinds of compressors have gotten better over the years, and LhA is the best so far. It has so many options and toggles that to list them all would fill an entire page. Most people will never use nine-tenths of LhA's features, but they're there for advanced users who want them. Get the latest version number you can find. The official distribution always takes the form of a self-extracting ".run" file. The author releases a newer version almost monthly, so paying his shareware fee ensures that you are constantly getting more features and increased speed—although the freely distributable "evaluation" version is perfectly serviceable.

Rend24 Version 1.04f
Thomas Krehbiel
JPEG/GIF viewer and animation batch processor
Shareware

24-bit color images are enormous. A single IFF24 file can easily fill an entire floppy disk and then some. The solution to storing these "deep-color" images is the compression scheme developed by the Joint Photographic Experts Group known as JPEG. Although it provides varying degrees of image squeezing, JPEG can typically turn a one-meg IFF24 into a 50K file with virtually no visual loss. You don't need to use a 24-bit display device to see JPEG images, although they sure look prettier when you do. You can decompress them and view them in "normal" Amiga modes such as hires and HAM.

There are excellent commercial solutions to achieve the same thing, but if you're not ready to spend the money, Rend24 may be all you need. It can load, decompress, and display full-screen JPEG or GIF image files on any Amiga with about 3MB of RAM or more. While it saves only normal IFF formats, Rend24 has other slick features. It's a batch processor that can sit waiting for your renderer, such as LightWave 3D, Imag-



Rend24 has a host of slick features.

ine, or Vista Pro, to write IFF24 output files to disk. Rend24 then grabs them, converts them to an Amiga-displayble format and builds them into an .anim file, or even to DCTV format if you specify. The user interface is slick and very easy to control. This is a lot of program for very little shareware money.

View 3.2
Michael Hartman/Cryogenic Software
Animation and IFF viewer
Freely Distributable

I've lost count of the number of animation players and IFF viewers out there, and every one of them makes claims to do a couple things the others can't. But for all-around ease of use and "correctness" in the way it deals with standard opcode-5 and -6 animation files and DCTV animation files, especially those which are not full-screen size, View 3.2 wins hands down. Its pretty screen and simple file requester make it easy for anyone to use. Built-in help reminds you of which keys control certain features. It also centers small-size animations on the screen. While View 3.2 doesn't sport a lot of bells and whistles, it does what it's supposed to do and does it well.

EdPlayer 2.1
Ed Mackey
Music "MODule" player/sequencer
Shareware

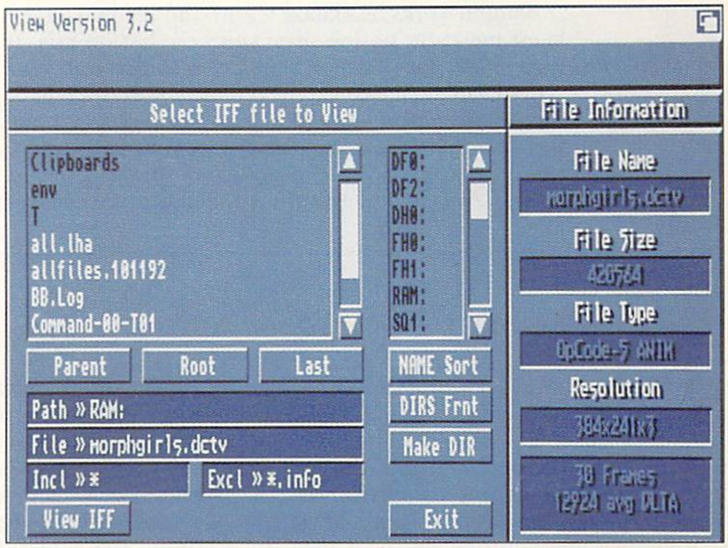
There are now thousands of music MODules out there for the grabbing. Some are brilliant little compositions, written with all different kinds of software, with names like MED, Soundtracker, and Noisetracker. What you need is a player with an easy-to-use interface that can handle these different formats and give you a lot of playback options. What you probably want is one that can sequence the tunes in jukebox format, multitasks well, has lots of slick features, and most of all is fun to use. What you want is EdPlayer.

The EdPlayer 2.1 interface looks like a CD deck with an LED readout display. There's built-in help for every button and gadget, plus there's an ARexx port. It handles PAL or NTSC mode modules, offers random shuffle play, and provides fade-out control. Its EdSynth keyboard screen even animates the notes being played. You can iconify EdPlayer down to a tiny window, or you can use EdPlayer Jr., a version that has no interface at all but consumes only a tiny amount of chip RAM. EdPlayer is simply a joy to behold.

PortalX 1.10
Steve Tibbett
Commercial dial-up service "front end"
Shareware
(requires 2.04 or higher)

Using commercial on-line systems (i.e., those to which you pay a fee) to read and post messages, upload and download files, or chat live with other people is very popular but can be a great time waster. Some people practically live on line, but others want to get on line, do their business, and log off as quickly as they can. While some of these services may charge relatively reasonable rates, all of them should have a "front-end" program that can automate common tasks.

PortalX is an Amiga front-end program for the Portal Online System. Once you've set it up and told it what to do, it logs on, gathers your waiting e-mail and the new articles posted to your favorite areas, and logs off. Its elaborate reader then displays your collected texts. You can now: compose replies off line using your favorite text editor; tell it to download files whose descriptions it fetched the last time; or write and queue up e-mail to send to your friends—whether they have a Portal address or an Internet-capable e-mail address anywhere in the world. The next time you use PortalX to call Portal, it will do what ►



View 3.2 makes viewing IFF and animation files easy.



EdPlayer 2.1 sports a clean, compact interface.

you've asked it to: send your e-mail, get area catalogs, reply to public articles, and download or upload files. PortalX has a slick and attractive interface with built-in multitasking help, and it makes use of many 2.04-specific programming features. The downloadable version is not crippled in any way, but shareware contributors will get newer versions first.



Aladdin
Tim Purves
Front end for GEnie
Freely Distributable

Aladdin is a similar front-end terminal program designed specifically for use with the GEnie telecommunications network. With it one can upload and download files, and read and respond to messages and electronic mail, all with a minimal amount of on-line time.

Aladdin works by dialing GEnie and reading all the latest messages posted since you were last on line. It then checks for personal mail, downloading it to your system. Finally, it looks in the on-line libraries you have indicated interest in, gathering information on any new files that have been added since your last session. (As GEnie has a large number of special-interest groups, Aladdin can prove very useful because it allows you to be selective both as to the groups you monitor and the subtopics within each group. Only those areas and topics you indicate will be checked for activity.) Once this is done, it logs off the network and hangs up.

You can then, at your convenience, read the mail or messages, responding to them whenever you want. With its built-in text editor, you enter your replies, which are then saved to disk until your next on-line session. You can also look through the list of files in the libraries to see if you want to download any of them. Then, the next time you log onto GEnie, all your message and mail replies are sent, the files you specified are downloaded, and Aladdin again checks for new messages and uploaded files.

Aladdin should save every GEnie user money. Best of all, it's free for the downloading, so you can use your existing terminal software to download it from GEnie, and then use Aladdin for all subsequent on-line accesses.—*LW*



Parnet
Doug Walker/Software Distillery
Networking software
Freely Distributable
(requires a special parallel cable and two Amigas or an Amiga and a CDTV) ►

FD Software: Facts and Sources

WHILE "PUBLIC DOMAIN" (PD) may be the most common term for the kind of software presented in this article, it is not the most accurate one to use. Without going into the niceties of copyright law, let's say that while all PD software is freely distributable (FD), not all FD software is in the public domain.

FREE, PD, OR PAY A FEE?

Technically speaking, software in the public domain is not protected by copyright. It can be used or modified by anyone—and under certain conditions even sold by someone other than the author.

That's why many authors attach restrictions to the "free" use of their programs. Some simply release the program for free distribution, stating merely that you can use or modify the program as long it is for noncommercial purposes only. Others specify that the program is free to the public but, by retaining the copyright, stipulate that you cannot modify it without their permission. (This is called "copyrighted freeware.")

Finally, there are "shareware" programs (which may or may not be copyrighted) that are distributed freely by their authors—but with the stipulation that if you use and enjoy the program, you are requested to pay the author a specified token fee. Shareware is well worth the minimal cost because you will often then receive documentation and program updates as they become available. And, more importantly, you are benefitting all users because those shareware fees keep the author working on further updates and even new programs, as well.



FD SOURCES

There are many sources of freely distributable software. Some, like users' groups and local BBSs, have surprisingly large collections and offer programs for free. (*To contact the other sources mentioned below, consult the "Manufacturers'/Distributors' Addresses" list on p. 108.*)The best known and one of the largest collections of FD software anywhere is the **Fred Fish Library of Freely Redistributable Software**. You can contact ***Fred Fish*** directly for a catalog-disk update, or you can find many of the titles in that collection on the major networks or in other collections from commercial FD disk sellers. The entire Fred Fish collection (more than 700 floppy-disks' worth) is also available on CD-ROM for $74.95 from ***HyperMedia Concepts***.The major information networks, all of which—to widely varying degrees—are sources for FD software, are: ***BIX***, ***CompuServe***, ***GEnie***, and ***Portal***.The largest of the commercial FD disk sellers is ***DevWare***, with an extensive collection of FD software in many categories. Although a smaller operation, another useful outfit is ***Premier Software***. As the Fred Fish collection shines in the utility/programming areas, Premier is a good source if you are looking for animations, sounds, graphics, and demos. □

16-Bit 32-Voice Fully Digital Stereo Audio For Your Amiga

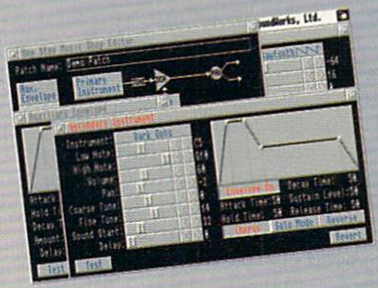
Now Amiga audio can rival Amiga video! Introducing One-Stop Music Shop, the professional multi-voiced soundcard for state-of-the-art results.



Featuring the award-winning E-Mu Proteus Sound Engine, the One-Stop Music Shop includes hundreds of 16-bit linear CD-quality digital samples, professionally compiled from vast libraries of sound.

You've never heard Amiga music this crisp and clear! The One-Stop Music Shop's exclusive signal processing ASIC chip can handle 32 channels of digital audio reconstruction in real-time.

Just plug it in. No extra cables required. Write video soundtracks, original music and more! The One-Stop Music Shop even includes special editing software, so you can design your own instruments from scratch! And to keep your serial port free and double your your own instruments from scratch! To keep your serial port free, while doubling the number of available MIDI channels, we've provided an additional MIDI interface right on the card!



Because the One-Stop Music Shop conforms to the General MIDI Specification, you've got instant compatibility with thousands of songfiles. So forget the Amiga's 8-bit sound producing hardware! Use the One-Stop Music Shop in SuperJAM! and Bars&Pipes Professional for incredible audio output. Or, reorganize its instruments and sound effects with The PatchMeister.

Multi-media, pro video, entertainment, music composition. With the One-Stop Music Shop, the possibilities are endless!

The One-Stop Music Shop

E-Mu Proteus Sound Engine For The Amiga

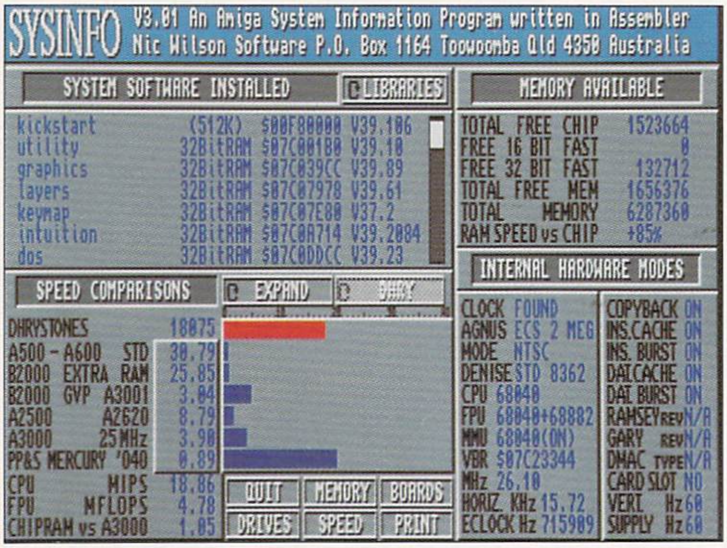
THE BLUE RIBBON SOUNDWORKS LTD

For more information, call, fax or write:

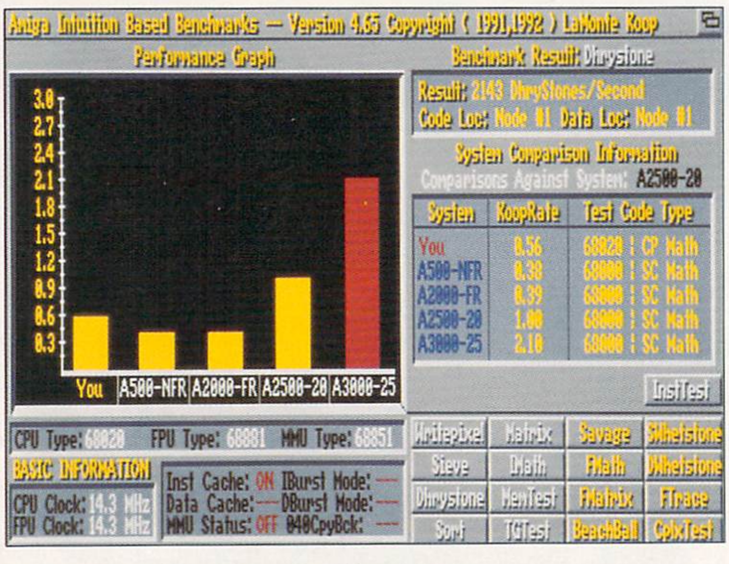
1605 Chantilly Drive • Suite 200
Atlanta, Georgia 30324
(404) 315-0212 • (404) 315-0213 fax

Circle 72 on Reader Service card.

No, Parnet wasn't released in 1992; it's a couple of years old. But with the release of CDTV (and with its new, lower price) and the growing popularity of CD-ROM software, this free little wonder has really been reborn. Simply put, you connect the parallel ports of two Amigas, or an Amiga and a CDTV, with a specially wired cable. You then install some software on both machines and run it, and you have a two-Amiga "network." This allows you to access CD-ROM software in CDTV's drive from your Amiga, and 650MB of data on a single CD is nothing short of incredible. A number of companies, including HyperMedia Concepts, have put the entire Fred Fisk disk collection on a single CD. I own a $25 CD that has more than six thousand GIF pictures on it. And there's another one out there with over two thousand classic works of literature and historical documents. All of this is accessible to any Amiga software over the "NET:CD0" device with $5 worth of cable and some free software. Remarkable.



SysInfo packs a pile of useful information on screen.



AIBB offers a wide variety of benchmark tests.

GadToolsBox
Jaba Development (Jan van den Baard)
Programming tool
Freely Distributable
(requires 2.04 or higher, some .libraries, and optionally a C compiler)

Lest I be accused of naming only user-oriented programs here, some of my developer friends have implored me to include GadToolsBox in the Best of '92. This program's elaborate facilities allow you to easily design 2.04-and-up-compatible software interfaces, with your mouse and keyboard, using all of the new operating system's Intuition features for buttons, gadgets, list requesters, fonts, screens, and colors. You can then generate either C, assembly, or Oberon language routines without having to code everything "by hand." Instead of pounding out code to put a shadowed button on a beveled backdrop on a screen in your own software, with GadToolsBox you can simply draw it the way you want it to look, and the program will write the code for you.

SysInfo
Nic Wilson

AIBB
LaMonte Koope

Benchmarking programs
Shareware

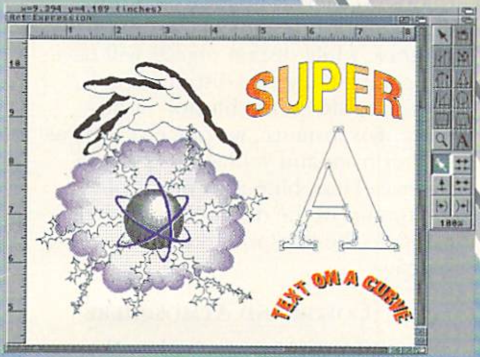
Again, get the newest versions of each of these. They are upgraded so frequently that any version numbers I name here will be old by the time you read this. SysInfo and AIBB (Amiga Intuition Based Benchmarks) are a pair of programs that tell you what you've got in your Amiga: memory, processors, drives, versions of your system software, and so on. Each can perform benchmark tests on your machine and then create bar graphs comparing your Amiga's performance to that of known standards such as a stock A600 or A3000. AIBB offers many more tests than SysInfo, but SysInfo crams more information on its main screen. Both programs can shut off multitasking while they run their tests for more accurate results.

Bragging rights are one reason to use benchmarking software, but another is that the more complicated your Amiga setup becomes, the more chances there are for you to unwittingly induce some slowdown in your system. By changing or removing other software in your startup-sequence and rerunning SysInfo or AIBB, you can see what effect such changes have on your system's overall speed performance. Again, neither of these programs was first released in 1992, but they have both matured and grown so much from their earlier incarnations that they are practically brand new. ■

Harv Laser is moderator/sysop for the Amiga Zone on the Portal system. He keeps up on FD developments by downloading scores of programs and perusing the many collections available. Write to him at PO Box 10141, Torrance, CA 90505.

ART *expression*™

More Tools, More Power



- **18 POWERFUL TOOLS!**
- **TEXT ON A CURVE AND IN A SHAPE!**
- **COLOR AND SHAPE BLENDS!**
- **42 POSTSCRIPT FONTS INCLUDED!**
- **COMES WITH BME BITMAP EDITOR!**
- **COMES WITH A FREE FILE CONVERTER!**

- 18 powerful drawing and editing tools, more than any other Amiga drawing program.
- Blend colors and shapes for metamorphosis.
- Rotate, skew, blend, stretch, fill, align and edit objects.
- Move, add, delete, join, split and align points.
- Compatible with Amiga and PC format PostScript Type 1 fonts.
- Comes with 35 PostScript Type 1 fonts. Get 7 more free when you mail in your registration card.
- Bend text around curved shapes.
- Warp text inside any closed shapes.
- Convert text to graphics and edit character shape.
- Load and edit IFF DR2D, Professional Draw Clip, Aegis Draw and Adobe Illustrator EPS files. (ProDraw files must be converted with the included utility.)
- Save in IFF DR2D, Art Expression EPS and Adobe Illustrator EPS.
- Create transparent holes in objects (composite paths).
- Two illustrated manuals and an extensive reference card.

Win an Amiga 4000!

Enter the Art Expression Design Contest to be eligible to win an incredible Amiga 4000! There are many other prizes, including the entire 3000 piece Graphic Library, 50 Graphic and Typeface Library volumes and Art Expression T-shirts!

PowerUp to Art Expression

If you already own PageStream, Professional Draw, ProVector or Expert Draw, you can purchase Art Expression for just $125. (See below for PowerUp details.) Offer expires Feb 28, 1993. Suggested retail price: $249.95.

Check out the rest of our Publishing Team! Soft-Logik Publishing *is* Amiga publishing.

PageStream 2.2

PageSream is the number one selling Amiga desktop publisher. It is so popular because it has the best interface, the most features, and the best font and graphic support. PageStream is the winner of the prestigious Amiga World's Expert Choice award.

HotLinks COMPATIBLE

Version 2.21 now available.

HotLinks Editions 1.1

HotLinks Editions combines PageLiner, BME and HotLinks. PageLiner is a powerful text processor with PageStream font and tag support. BME lets you crop, touchup and trace bitmap pictures. HotLinks is the Amiga's data exchange standard.

HotLinks COMPATIBLE

New Version 1.1! NEW!

*type*SMITH

Finally, a full-featured font editor for the Amiga has arrived. TypeSmith can create and edit PostScript Type 1, Compugraphic Intellifont, and PageStream fonts. TypeSmith is ARexx compatible and has extensive drawing tools to design professional typefaces.

HotLinks COMPATIBLE

Available Jan '93. NEW!

Soft-Logik Publishing • *We give you the tools to dream.*
P.O. Box 510589, St. Louis, MO 63151-0589. 1-800-829-8608.

All trademarks are the property of their respective owners. Art Expression Design Contest ends April 30, 1993. International calls: 314-894-8608. Fax: 314-894-3280. PowerUp: Registered PageStream owners qualify for the PowerUp automatically: just include your registration number. Other program users must send in their manual title page and program disk (or a photocopy of the disk showing the registration number.)

Circle 46 on Reader Service card.

ACCENT ON GRAPHICS

Putting Things In "Perspective" Part 1

47

A continuing series of tips, techniques, and tricks for creating more imaginative Amiga graphics.

By Joel Hagen

CREATING AN ILLUSION of depth and distance in artwork is partly a matter of skill and observation and partly an understanding of certain principles of physics and perception. This and next month's column will help you explore some of these principles and suggest ways in which you can apply them to your Amiga painting and animation.

Linear vs. Aerial Perspective

When applied to art, the term "perspective" usually brings to mind diagrams of vanishing points, diagonal lines, railroad tracks, and fence posts receding into the distance. This "linear perspective" is a western invention, emerging most visibly in the 1400s in the work of Brunelleschi and Masaccio. Renaissance painters, such as Fra Angelico and Leonardo da Vinci, later perfected this concept as a system of mathematical rules for drawing.

We are accustomed to recognizing drawings employing linear perspective as sensible depictions of the real world. Not all cultures, though, would agree. Studies of some African tribal cultures, for example, reveal a different view of the world. To their perception, a western drawing with a man in the foreground and an elephant on a distant hill in the background makes no sense since elephants are not smaller than people.

Many graphics programs, such as DeluxePaint (Electronic Arts), include powerful implementations of linear perspective among their tools. For our purposes, however, let's look beyond these well-documented features to see how other aspects of perspective that have not been automated can play an important part in computer graphics.

As a fundamental definition, perspective is the art of depicting objects or landscapes in a way that expresses dimensions and spatial relationships. One of the most effective ways an artist can depict spatial relationships in a landscape is through "aerial perspective," a principle observed and used by Chinese artists before the emergence of linear perspective in the west. Haze from moisture and dust in the air begins to obscure distant objects, creating aerial perspective.

By mimicking this effect, an artist can achieve an illusion of distance in a painting. Near objects will have bright, saturated colors. Distant objects will have lighter, grayer, less saturated colors. Near objects will have strong highlights, dark shadows, and high contrast, while distant objects will have low contrast and less distinct detail. Even hue affects the illusion of distance. For instance, we perceive blue as farther from and yellow as nearer to the eye. Thus, blue-gray or purple mountains in the distance and warm colors in the foreground enhance perspective.

Local Color and Atmosphere

An instructive way to explore the nature of aerial perspective is with the Vista Pro (Virtual Reality Laboratories) landscape generator. Hitting the Haze DN button on the control panel introduces a calculated degree of haze density appropriate to the distance between the camera and the target. You can, however, enter your own figure in this setting to explore the effect of atmospheric perspective. As an experiment, I made a gray-violet sky in the Vista Pro Color Map, with haze and skyhaze a grayer version of that color.

Section one of the accompanying illustration shows a random fractal landscape generated with a haze density of 100. Section two shows the same landscape and Color Map with a haze density of 1000. Note the radical effect on the distant mountain, graying it toward the color of the haze and reducing detail. The foreground, by contrast, is barely affected. Experiment with different camera positions, haze densities, and colors on the same landscape for a do-it-yourself tutorial on aerial perspective.

Section three of the illustration applies the lessons learned from tests in Vista Pro. To simplify your own experiments with color and value in painting, try reducing the landscape to a composition of flat layers as I have done.

Experimenting with different concepts of perspective can add subtle richness and variety to your Amiga artwork.

These overlapping planes provide another visual cue enhancing the illusion of depth. Near objects overlap more distant objects. This may seem obvious, but few beginning artists make effective use of this simple principle of perspective.

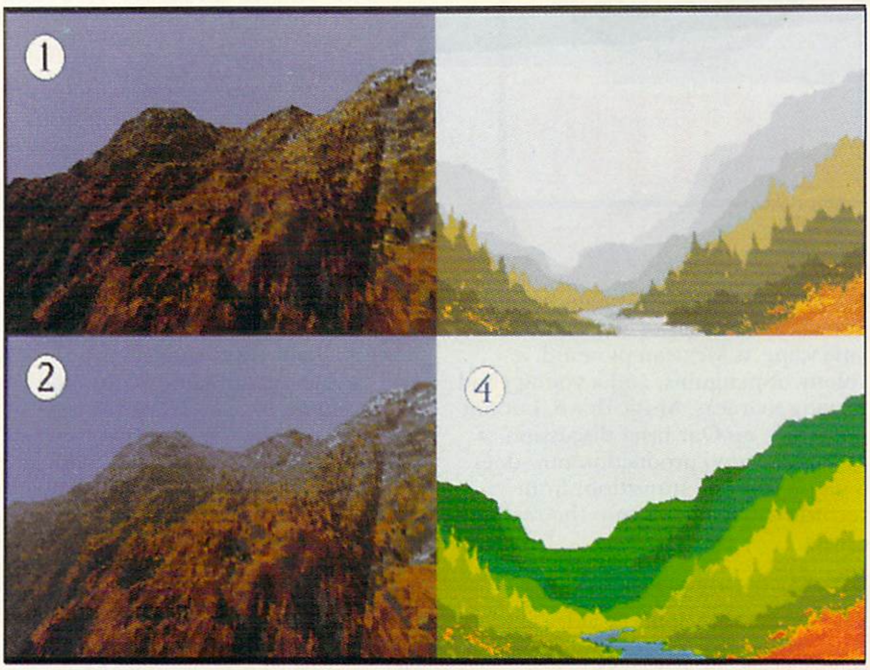
Artistically, the lack of detail in the distance also serves to steer the viewer's eye toward the foreground.Paint the most distant ridges in slightly darker versions of the sky color. Each ridge that is closer to your eye might be one notch darker in value. Begin introducing low-saturation, natural landscape color in the middle ground where you see my lines of trees taking shape. In the foreground, scumble in some rough areas of more saturated color for the visually close detail.

Any number of color schemes can be effective. If you want to try the colors I used in section three, here is a table of the RGB values beginning with the sky and moving toward the foreground.

	R	G	B
Sky	12	14	15
Ridges	12	13	14
	11	12	13
	10	11	12
	9	10	10
Trees	9	9	6
	7	7	5
	6	6	4
Ground	11	9	4
	9	6	3

Even the sky itself is affected by atmospheric perspective. Sky haze produces the greatest effect near the ground where we are looking through more atmosphere, and then diminishes toward the zenith. The sky in section three is enhanced with three layers of color. Above the sky color shown in the table is a layer of 11, 14, 15, and above that is a layer of 10, 14, 15.

You will find that you can make very subtle color changes if you adjust only the red or blue component of successive palette colors. Changing the green component or moving the value slider yields a much more drastic effect. You might also add a simple river shape to your landscape, as I did. This provides a touch of linear perspective to lead the eye back through the planes you have established. Just make it narrow in the distance and wide in the foreground.



Experiments with haze settings in Vista Pro reveal principles of aerial perspective. These are then employed in painting section three and, for the sake of comparison, ignored in section four.

For comparison, section four of the illustration shows exactly the same painting done in colors that ignore principles of aerial perspective. All the landscape planes are painted with the kind of saturated colors favored by beginning painters. Our memories of color are so vivid that they become exaggerated as we try to create them in the palette. I find that most beginners paint with colors at saturation levels between 10 and 15. By contrast, most of the saturation levels in section three are between 1 and 5.

Creating simplified landscapes reduced to planes serves as a foundation for examining the phenomenon of parallax and applying those observations to animation. This will be the topic next month in part two. ■

Joel Hagen's credits include work in art, astronomy, science fiction, and software development. Write to him at 10512 Sawyer, Oakdale, CA 95361. Please include a stamped, self-addressed envelope for a reply.



Audio for Video–2

We wrap up our two-part installment series on the audio portion of video production by facing the music.

By Michael Hanish

MUSIC UP. ABRUPT, ragged trombone solo. Pictures of a vast and dusty landscape, a Mexican pyramid, a colony of penguins, and a young child playing maracas. Music down, but not out. Voice up.Our brief discussion of audio for video production now does a segue (smooth transition) from recording techniques into the realm of music.

The Heart of the Matter

The musical elements of video underscore and bring out the emotions of the images and dialog. Here's a research assignment: Watch a movie (your choice) and take note of all the music cues, paying attention to how the music is used and its relation to the sound and dialog. Your notes will be long and detailed, and your remote control will get quite a workout. You'll find music accompanying a scene or sequence of scenes, with the rhythm of the music matching the rhythm of the pictures. It can set the mood before or after a scene, or support it like the frame of a house, exposing itself from time to time. The music track can be either in the background or foreground, and have a different effect on the whole piece depending on its relationship with the other elements.

The only hard and fast rule for a musical score is that it must work, meaning that it must have the result and effect you intend. Even so, there are some shoulds and shouldn'ts to bear in mind. For instance, the music shouldn't obscure the dialog or overpower the images to such an extent that the viewer is confused. Also, the music should have some sort of relationship with the whole of the piece—support, contrast, diversion, or even random juxtaposition. The choices you make in creating a score have to be both instinctive and intellectual. The only way to tell whether it all works or not is to remove yourself from the role of creator and take in your piece as an impartial viewer. Make no assumptions and don't interpret too deeply on the first viewing. Most importantly, be honest with your reactions and impressions. Rationalization will keep you from seeing and feeling what is there.

If you choose not to create an original score, be very aware of whose music you are using and what the copyright laws are. If you have never made a piece of music from scratch, you may not have a good understanding of how much work is involved. Such work must be compensated for and, at its best, this is what copyright law tries to ensure. For a good overview of these rules and laws, see "Copy Rights and Wrongs," Feb. '91, p. 41.

Homemade Music

The actual business of composing is done with a sequencing program, using either native Amiga eight-bit samples for instrument sounds or the higher quality, MIDI-triggered sounds of external synthesizer- or sampler-modules. There is an abundance of sequencers available in a wide variety of styles and levels of complexity. (For more information on samplers, MIDI, and sequencers, see "Talkin' Electronic Music Blues," May '91, p. 18.) Choose yours on the basis of its look and feel, features, and your preferences for work style and environment. My personal recommendation is for **Bars and Pipes Professional** ($379, ***The Blue Ribbon SoundWorks***), which offers the ability to work with both MIDI and internal Amiga sounds, lock to SMPTE time code, edit all parameters graphically, run synchronized to animations, and interface with external boards such as SunRize Industries' AD1012 and AD516 and GVP's IV24—and generally allows you to have a good time while making music. *(To locate vendors of the products mentioned, see the "Manufacturers'/Distributors' Addresses" list on p.108.)*

No matter which program you use, a stopwatch will be a good investment to aid in scoring music for a particular video piece. The idea is to build a timing list of all the places in the video you want music and sound effects to hit. Even a very rough cue list can help you to organize and plan the sections of music you need to create and where you want the changes to be. (More on this later.)This is not meant to rule out my old favorite method of soundtrack creation: improvisation. Crank up your music program, be it sequencer or an algorithmic composing tool such as **M** ►



HIGHLY AFFORDABLE.

Finally... affordable high-resolution hand scanners for your Amiga! Alfa Data introduces the AlfaScan and AlfaScan-Plus hand scanners.

AlfaScan and AlfaScan-Plus connect to your Amiga 500, A2000 or A3000 parallel port and allow you to scan images in up to 256 grayscales in resolutions ranging from 100 to 400 dots per inch.

Both AlfaScan and AlfaScan-Plus come complete with parallel adapter, A/C adapter and new *Scan&Save-Plus* software featuring real-time on-screen scan display and complete WorkBench 2.0 style user interface.



Requires AmigaDOS 1.2 or higher and a minimum of 1MB RAM.

ALFA DATA®

109 South Duncan Road · Post Office Box 6990 · Champaign, Illinois 61821
Telephone: (217) 356-1962 · Fax: (217) 356-4312

For more information, contact your nearest Amiga® dealer.

Dealer inquiries welcome

Circle 191 on Reader Service card.

($179, ***Dr. T's Music Software***), roll the video, wail, and record the results into the sequencer or a multitrack tape recorder. Take your time and build up several layers of sounds. This method is also useful for creating a scratch track (to be discarded later), to which you can synchronize the final piece's dynamics and changes.

MATCH METHODS

The tough part, of course, is getting the video and audio parts (on tape and/or sequenced) to start at the same time. Many methods have been developed to deal with the problem of synchronization, from the funky to the fantastic. The funky end consists of simply trying to start both media at the same time through simple hand/eye coordination. This method is absolutely fine for pieces when the synchronization needs are not all that precise, such as laying broad accompaniment under a video sequence. Sound effects can be triggered from the sequencer at relatively specific times, with a rough accuracy of a second either way (see "Amiga Talkies: Syncing Sound with Animation," Special Issue '92, p. 58).

This is clearly not precise enough for many purposes; no one wants to hear the car door slam before they see it. The elegant solution is time code, either MIDI or SMPTE, a hardware-and-software method of locating precise points with single-frame (about one-thirtieth of a second) accuracy. In this way, you can have a sound effect play at precisely the correct instant while a music track also plays. To learn about the ins and outs of using time code on the Amiga, see "MIDI and SMPTE Compatibility," Jan. '91, p. 76, and "Frames of Reference," Special Issue '92, p. 27.

The most convenient way to get time code into your Amiga is in conjunction with a MIDI interface; the two best solutions currently available are **The Phantom** ($350, ***Dr. T's Music Software***) and the **Triple Play Plus/SyncPro** combination ($189/$199, ***The Blue Ribbon SoundWorks***). The distinct advantage of the latter is the provision of three separately addressable MIDI-out ports; its disadvantage is the lack of a serial pass-through connector. Both units and their software work well with several major sequencer packages, as well as SunRize's AD1012 and AD516.

BODY AND SOUL

Now comes the stage of putting all the audio pieces together into a complete soundtrack: layers of music, sound effects, and dialog. The main purpose of sound design, as it is with image editing, is to create or recreate a new reality from many discrete pieces. All the elements we have discussed above and last month must be woven together to produce the desired impression.

> **"The goal of the final mix is to have each element properly balanced; audible and clear when necessary, no matter what its level."**

By the final mixing stage, you will have all the pieces prepared to their proper lengths and ready to start and end at the appropriate times. If there is original dialog, it must either be kept on its own audio track of the edit master tape or fed into the mixer in sync with the music and any added sound effects.

This is the time when you may well feel like an octopus, trying to start and stop a variety of sound sources while controlling their levels on the mixer. The more you can preset—start and end points, sound levels, and so on—the better. This is where the above-mentioned SunRize audio boards can come in handy. Rather than deal with 35 separate sound-effects cues that each need to be edited and triggered, you can use either ***SunRize's*** AD1012 or AD516 to record and edit all the sounds into one longer multitrack digital sample. The **AD1012** board ($595) works in mono, with 12 bits of resolution and four discrete tracks. The **AD516** ($1495) is an even higher-level unit, providing stereo, 16 bits, and eight tracks. Both boards have variable sampling rates, including 44.1 KHz CD level. Both have SMPTE in and out ports, meaning they can be precisely timed to the time code on video, which hopefully is also running the sequencer. (For more detailed information on these boards, see the review on p. 18.)

ALL IN THE MIX

The goal of the final audio mix is to have each element in its proper balance, audible and clear when necessary, no matter whether its level is high or low. It is worthwhile taking the time to study the sound score of *Apocalypse Now*, by the director's father, Carmine Coppola. The sounds of slowed-down helicopter blades, distant thunder, exploding munitions, engine rumble, and deep bass synthesizers all blend together; suddenly, the viewer becomes aware of the sound, realizing that it has been continuous for several minutes.

Sound mixing is an art. Study hard while you practice, and remember: Even the best don't get it right on the first try. Keep track of all the EQ, pan, and level settings for all aspects of each trial mix so you can fine-tune each successive attempt rather than start all over again from scratch. And keep in mind that most of your viewers will see and hear your work on the tiny mono speaker of their television sets. Always check your mix under those conditions.

Listen and look carefully. Aspire to the best technical quality your equipment can deliver. Insist on solid content. Unless you have something to say with your work, no one will be watching. ■

Michael Hanish uses an Amiga for video, graphics, and music, with both his performance group and his adult literacy students. He writes frequently on audio and video topics. Write to him c/o AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458.*

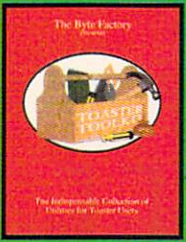
Is there a subject you would like to see covered in "Video Suite"—a common problem that needs a solution, a technique you'd like to learn, or a category of product you'd like discussed? Whether you'd like to read about it or write about it, send your ideas to Video Suite, AmigaWorld *Editorial, 80 Elm St., Peterborough, NH 03458.*

Creative™ COMPUTERS

U.S. ORDERS ONLY:
800-872-8882
CANADA: 1-800-548-2512
4453 Redondo Beach Blvd., Lawndale, CA 90260

CUSTOMER SERVICE OR
310-214-0000
ORDER STATUS

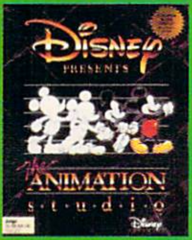
NEW Christmas Hours
Mon-Fri 7-6 PST Sat 8-6 Sun 11-6
FAX: 310-214-0932



Toaster Toolkit 1.1

The indispensable collection of the utilities for Toaster users includes: AnimFX, Toaster Sequence Editor, Toaster Project Editor, and FrameStore Compressor.

4378 $139.00

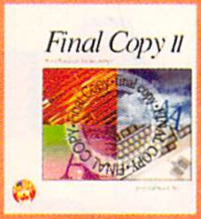


Disney Animation Studio

The only full-featured animation and paint program to utilize state-of-the-art cel animation techniques that are characteristic of Disney-style animation.

0387 $49.95

Final Copy II



- Structured drawing tools
- Master pages
- Style Sheets
- 1.4 Million response thesaurus
- Text obliquing
- New user interface
- 24-Bit ILBM Support
- Page views from 25% to 400%

$89.95 4469



AMAX II+

$359.00

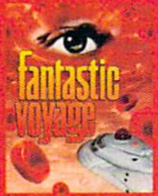
- Internal card for the A2000 and A3000
- No additional disk drive required
- Includes MAC MIDI
- Supports System 7.0

4176

Centaur Development

Holiday Super Special

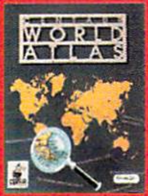
Take advantage of a limited-time offer on our best-selling Amiga titles



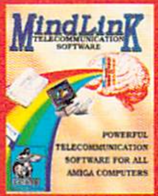
Fantastic Voyage: The Computer Game
Based on the award-winning movie!
$29.95 3670



B.A.D. Ver.4.0
Best-selling disk optimizer for all Amigas. Speeds floppy and hard drives by up to 5 times!
0120 $24.95



World Atlas
3 Disks of info on over 170 countries & 255 maps.
$29.49 0699



Mindlink
Powerful telecommunication software for all of the Amiga Computers
1875 $28.95

RocGen



- Works with all Amigas, including CDTV
- Dual dissolve knobs
- RGB & Audio/Video pass-thru

$329.00 3725

RocLite



- Smallest floppy drive avail.
- Built-in Anti-Virus Hardware
- Floppy drive pass-thru

$89.95 4338

Distant Suns 4.1



- Realistically displays the night sky from 4713 B.C. to 10,000 A.D.
- Move your viewpoint
- Reproduce eclipses, show lunar phases.
- Add up to 3,000 custom objects

$49.95 4027

Prices Effective December 1, 1992

Creative Computers has all the best NEW games for your Christmas shopping list!
If you don't see a particular title listed in our ad, please call. We receive new titles every day.

Psygnosis



Lemmings
All time favorite!
2642 $29.95



More Lemmings
The only thing better than Lemmings is More lemmings!
3666 $13.95



Air Support
The future of armed warfare is here!
4249 $29.95



Shadow of the Beast III
Exciting finale of the Shadow of the Beast III trilogy!
4470 $36.95

Maxis



RoboSport
Armed with bombs, bullets, missiles, grenades and more, you control teams to robots that compete in five different sports.
4215 $36.95



Sim Ant
Based on real ant biology and behavior, Sim Ant gives you the experience to life as an ant.
4020 $39.95



Sim Earth
Take charge of an entire planet from it's birth to it's death.
4323 $42.95



Sim City
Design, build and manage the city of your dreams.
0508 $32.95

Dynamix



Nova 9
Explosive successor to the classic Stellar 7 game!
4340 $24.95



Red Baron
The premiere World War I flight simulator.
3760 $39.95

Bitmap Brothers



Speed Ball 2
A vicious game of physical dominance, animalistic intimidation and reckless destruction. It's great!
2585 $26.95



GODS
Who but the Gods could hagve laid down a gauntlet to challenge both your skill and your intellect.
2914 $26.95

Deva Soft

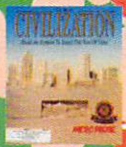


Amy's Fun•2•3
Math for 2-6 year olds.
4129 $29.95

MICROPROSE



World Circuit
World Championship Formula One racing at it's most intense
3973 $39.95



Civilization
Create and master an Empire to stand the test of time
4344 $45.95

Infocom



The Lost Treasures of Infocom
20 Infocom classic all-in-one!
4054 $45.95

Prices Effective December 1,1992

Circle 13 on Reader Service card.

Visit our Amiga Superstores!

South Bay: 4453 Redondo Beach Blvd. - Lawndale, CA 90260 - Mon-Sat 11-7 PST -Phone: (310) 542-2292
Westside: 318 Wilshire Blvd. - Santa Monica, CA 90401 - Tues-Sat 11-7 Sun 11-5 PST-Phone: (310) 394-7779

	TRACKBALL	73.95
4211	GENIUS GENITIZER 12X12	349.00
2371	GOLDEN IMAGE 2 BUTTON MOUSE	34.95
3216	GOLDEN IMAGE CORDLESS MOUSE	74.95
4079	GOLDEN IMAGE OPTICAL MOUSE	64.95
4426	GRAVIS AMIGA GAMEPAD	19.95
3742	MIRACLE KEYBOARD	359.00
4557	PRO PARALLEL ADAPTER FOR FIGHTER DUEL PRO	15.95
1531	SLICK STICK JOYSTICK	7.95
4536	SPEED KING ANALOG JOYSTICK	19.95
4445	TAC-30 JOYSTICK	10.95
4446	TAC-50 JOYSTICK	13.95
4591	TOUCH WINDOW	329.00
1416	TRACKBALL AMTRAC	59.95
4447	Q-STICK JOYSTICK	7.95
4558	WACOM AMIGA DRIVER WITH CABLE	84.95
3293	WIZ DRAWING TABLET 7.5 X 7.5	239.00
4930	X-SPECS 3D	109.95

SCANNERS/DIGITIZERS

4462	EUREKA HAND SCANNER 400	169.00

AUDIO/MIDI

1128	ECE MIDI A1000	49.95
1655	ECE MIDI PLUS A500/ A2000/A3000	49.95
4370	EUREKA MIDI WITH PASSTHROUGH	38.95
4369	MIDI CONNECTOR W/ CABLE	38.95
1538	MIDI GOLD INSIDER	64.95
4504	PERFECT SOUND 3.1	69.95
1784	PHANTOM MIDI INTERFACE	239.00

EXPANSION/PORTS

1100	BOMAC TOWER	289.00
4902	DENISE EXTENDER BUS	85.00
1248	DUAL SERIAL BOARD	269.00
4394	GVP INPUT/OUTPUT EXTENDR	199.00

EMULATORS

4176	AMAX II PLUS	359.00
2286	AT BRIDGEBOARD	(SEE CBM LISTING)
4357	386SX BRIDGEBRD	(SEE CBM LISTING)

POWER SUPLIES

1857	BIGFOOT 200 POWER SUPPLY	97.95
2434	IVS POWER SUPPLY	89.95

CHIPS (VARIOUS)

1096	68882/25 MATH COPROC	189.00
2141	68882/33 MATH COPROC.	289.00
2189	IC AGNUS: FATTER 1MB CBM 8372	69.00
2425	IC AGNUS: SUPER FAT 2MB A3000 AGNUS CHIP	99.00
5212	KICKSTART 1.3 ROM	39.00
4229	MEGACHIP 500/2000 W/ AGNUS	269.00
3272	MULTISTART II	29.95
3881	MULTISTART II REV 6A	64.95

MODEMS

8877	SUPRA 2400 BAUD MODEM	79.95
3184	SUPRAFAX 2400ZI PLUS	119.00
4152	SUPRAFAX MODEM 2400/9600FAX AMIGA	174.00
4150	SUPRAFAX MODEM 2400/9600FAX GENERIC	135.95
4086	SUPRAFAX MODEM 9600 V.32	259.0O
3732	SUPRAFAX MODEM 14.4/V.32BIS	299.00

PAL SPECIFIC HARDWARE

4052	DCTV PAL	549.00
3942	DIGI VIEW MEDIASTATION PAL	159.00
2083	FLICKER FIXER PAL	300.00
4422	PERSONAL TBC II PAL	1299.00

. MEMORY EXPANSION

RAM CHIPS

—	MOST RAM CHIP SIZES AVAILABLE AT ECONOMICAL PRICES	CALL

A500 INTERNAL RAM BOARDS

1652	ADRAM 540 W/0K	89.95
4198	ALFA DATA 501 CLONE	36.95
1580	BASEBOARD A500 0/4 MB	89.00
4438	EUREKA A501 CLONE	38.95
1585	SUPRARAM 500 1/2 MEG	47.00

A500 EXTERNAL RAM BOARDS

2506	SUPRARAM 500RX 1MB	135.00
2773	SUPRARAM 500RX 2MB	199.00
3192	SUPRARAM 500RX 8MB	429.00

A600 INTERNAL RAM BOARDS

4432	BASEBOARD 600 0MB W/O CLOCK	24.95
4431	BASEBOARD 600 0MB W/ CLOCK	39.95
4472	PCMCIA 2MB RAM BRD A600	149.00
4473	PCMCIA 4MB RAM BRD A600	239.00

A2000 RAM BOARDS

3889	DKB 2632 RAM EXPANSION BOARD FOR A2500	CALL
1265	SUPRARAM 2000 2MB RAM	179.00
1411	SUPRARAM 2000 4MB RAM	240.00
1533	SUPRARAM 2000 6MB RAM	299.00
1291	SUPRARAM 2000 8MB RAM	379.00

VIDEO SOLUTIONS

(SOFTWARE AND HARDWARE)

IMAGE PROCESSING SOFTWARE

3634	ART DEPARTMENT PRO. V 2.1	159.00
2584	ART DEPARTMENT CONVERSION PAK	52.95
4414	ASDG TRUE PRINT 24	64.95
4391	CINEMORPH	99.95
3870	IMAGEMASTER	149.00
4021	IMAGEMASTER FIRECRACKER VER.	139.00
4348	MORPH PLUS	179.00

3D RENDERING/ANIMATION SOFTWARE

4542	ALADDIN 4D	279.00
4030	ANIMATRIX MODELER	64.95
3290	BROADCAST 3D FONTS - IMAGINE	84.95
3749	BROADCAST 3D FONTS - LIGHTWAVE	84.95
4312	BROADCAST 3D FONTS - MASTER PACK 2 LIGHTWAVE	74.95
4313	BROADCAST 3D FONTS - MASTER PACK 3 LIGHTWAVE	74.95
3807	CALIGARI 2	279.00
4007	CYCLEMAN FOR IMAGINE	39.95
4315	ESSENCE	49.95
4208	IMAGINE 1.1W/FREE VIDEO	79.95
3826	IMAGINE 2.0	239.00
4487	INTERCHANGE PLUS	64.95
2996	MAP MASTER FOR IMAGINE	45.95
2954	MAP MASTER FOR LIGHTWAVE	64.95
4455	MORPHUS	69.95
4343	MOTION MAN FOR LIGHTWAVE	119.00
4582	PIXEL 3D PROFESSIONAL	159.00
4556	PLAYMATION	279.00
4292	PRO TEXTURES VOL. II	42.95
3203	REAL 3D V1.4	199.00
3332	SCULPT ANIMATE 4-D	299.00
4199	VIRTUAL REALITY STUDIO	64.95

DESKTOP VIDEO

1805	BROADCAST TITLER II	229.00
4250	BROADCAST TITLER II SUPER HIGH RES VERSION	279.00
4471	BROADCAST TITLER II FONT PACK 2	94.95











Prices Effective December 1,1992

Circle 13 on Reader Service card.

Creative Computers

U.S. ORDERS ONLY: 800-872-8882
CANADA: 1-800-548-2512
4453 Redondo Beach Blvd., Lawndale, CA 90260

CUSTOMER SERVICE OR ORDER STATUS 310-214-0000
NEW Christmas Hours
Mon-Fri 7-6 PST Sat 8-6 Sun 11-6
FAX: 310-214-0932

3772	PRO VIDEO CG II	129.00
3888	SCREEN MAKER 24-BIT	59.95
4377	TEXTURE CITY CD-ROM	119.00
4220	TEXTURE CITY PRO 60	159.00
4378	TOASTER TOOLKIT 1.1	134.95
4584	TOASTER VISION	139.00
3699	VIDEO DIRECTOR	149.00

VIDEO ENHANCEMENT HARDWARE

4164	CHROMA KEY PLUS	359.00
0152	COLOR SPLITTER	109.00
——	DMI RESOLVER BOARDS	CALL
2431	FIRECRACKER 24/2 MEG FREE IMAGINE 2.0	819.00
8787	FLICKER FIXER	249.00
4201	FLICKER FREE VIDEO 2	239.00
4277	OPALVISION 24-BIT MAIN BOARD	999.00
4092	RAMBRANDT 24-BIT VID. BRD.	3595.00

GENLOCKS

4526	GVP G-LOCK GENLOCK	449.00
3725	ROCGEN PLUS GENLOCK	329.00
6879	SUPERGEN GENLOCK	629.00
1440	SUPERGEN 2000S	1350.00

EDITING HARDWARE

——	BCD 2000A:	
3635	-JVC DECKS	799.00
3281	-PANASONIC 7750	799.00
3636	-SONY 9 PIN DECKS	799.00
4260	NUCLEUS SINGLE FRAME CONTROLLER 2.0	369.00
——	PERSONAL VIDEO DISTRIBUTION AMPLIFIER:	
4217	-AMIGA SLOT	139.00
4216	-IBM SLOT	139.00

HOT INTEGRATED VIDEO HARDWARE

1721	DCTV	399.00
4331	DCTV RGB ADAPTOR	249.00
4521	DPS REMOTE CONTROL	279.00
4513	DPS-230 TBC	1699.00
3639	KITCHEN SYNC	1599.00
4194	KITCHEN SYNC S-VIDEO OPTION	119.00
4009	KITCHEN SYNC GENLOCK OPTION	154.00
4277	OPALVISION 24-BIT MAIN BOARD	999.00
3940	PERSONAL VECTRASCOPE	789.00
2566	PERSONAL TBC I (REFURBISHED)	479.00
4486	PERSONAL TBC III	869.00
3628	VIDEO TOASTER 2.0	2099.00

FRAMEGRABBER HARDWARE

4596	SPECTRUM 24-BIT FRAMEGRABBER	479.00

BUSINESS SOFTWARE

ACCOUNTING

7066	BEST BUSINESS MGMT	129.00
0226	DESKTOP BUDGET	40.95
4120	EASY LEDGERS	159.00
4510	HOME FRONT 2.5	49.95
1854	PHASAR 4.0	59.95
0979	SERVICE INDUSTRY ACCTNG	129.00

DESKTOP PUBLISHING

4507	HOT LINKS 1.1 /PAGESTREAM	99.95
4125	MIGRAPH OCR MULTILINGUAL SOFTWARE	249.00
3833	PAGESTREAM 2.2	189.00
0410	PROF. PAGE STRUCTURED CLIP ART	38.95
0409	PROF. PAGE TEMPLATES	35.95
3854	PROFESSIONAL PAGE 3.0	169.00

SPREADSHEET

3493	CHARTS AND GRAPHS	29.95
4187	MAXIPLAN 4.0	99.95
0487	PROFESSIONAL CALC	189.00

DATABASES

1775	FAMILY TREE VERSION 2	46.95
2352	SUPERBASE PERSONAL 2	59.95
2762	SUPERBASE PROFESSIONAL 4	199.00

WORD PROCESSING

4469	FINAL COPY II	89.95
2793	PROPER GRAMMAR	CALL
4406	PROWRITE 3.3	64.95
2442	TRANSWRITE	39.95

HOME/PRODUCTIVITY

4228	CONTACT 2.0	44.95
4421	MINI OFFICE	69.95
4075	NOTEBOOK	26.95
0797	TOP FORM	52.95

EDUCATIONAL SOFTWARE

GENERAL EDUCATIONAL

4029	CASTLE OF DR. BRAIN	34.95
1903	CROSSWORD CONST SET	22.95
4027	DISTANT SUNS VERSION 4.1	49.95
4255	MAPLE V	CALL
3245	MAVIS BEACON TYPING	36.95
2440	PELICAN PRESS	64.95
1268	WHERE IN EUROPE IS CARMEN SAN DIEGO	34.95
1833	WHERE IN TIME IS CARMEN SANDIEGO	34.95
0766	WHERE IN THE U.S.A. IS CARMEN SAN DIEGO	34.95
0470	WHERE IN THE WORLD IS CARMEN SAN DIEGO	34.95
0699	WORLD ATLAS 2.5	29.49

ELEMENTARY EDUCATIONAL

3684	ALL ABOUT AMERICA	19.95
4129	AMY'S FUN 2 3	29.95
3681	ANIMAL KINGDOM	22.95
4022	AT THE ZOO	14.95
2912	BARNEY BEAR GOES CAMPING	20.95
0104	BARNEY BEAR GOES TO FARM	20.95
1219	BARNEY BEAR GOES TO SCHOOL	20.95
1679	BARNEY BEAR GOES TO SPACE	20.95
5602	DECIMAL DUNGEON	22.95
3680	FRACTION ACTION	22.95
4515	FUN SCHOOL PAINT & CREATE	32.95
4514	FUN SCHOOL SPELLING FAIR	32.95
1694	KATIES FARM	25.95
5604	KINDERAMA	22.95
3643	LAND OF THE UNICORN	22.95
4412	MATH A MAGICIAN	25.95
1010	MATH BLASTER PLUS	32.95
5605	MATH WIZARD	22.95
2753	MCGEE	25.95
0255	MY PAINT 2.0	29.95
5607	READ-A-RAMA	24.95

LANGUAGE INSTRUCTION

3622	AUDIO GALLERY CHINESE	74.95
3623	AUDIO GALLERY GERMAN	54.95
3621	AUDIO GALLERY JAPANESE	74.95
4130	AUDIO GALLERY RUSSIAN	79.95
3558	AUDIO GALLERY SPANISH	54.95
1772	JAPANESE I	27.95
0954	LINKWORD FRENCH	19.95
0955	LINKWORD GERMAN	19.95
0956	LINKWORD ITALIAN	19.95
0957	LINKWORD RUSSIAN	19.95
0953	LINKWORD SPANISH	19.95



Morph Plus $179.00

With features like 3D wave/ripple effects, completely WYSIWYG perspective and spherical warper, arbitrary rotation, and the best morphing/warping technology around, Morph Plus is the premiere morphing package on the market. **4348**

TRIMEDIA Incorporated

WIZ — 7 ½" x 7 ½"

Wiz Drawing Tablet $239.00 **3293**

SUPRA QUALITY GUARANTEE — FIVE YEAR Limited Warranty

Supra Corporation

Modems

Supra 2400 Baud Modem	69.95*	8877
SupraFax 2400/9600 Data	129.00*	4150
SupraFax Modem 14.4/14.4k	299.00	3732



Supra FAX Modem 14.4k/14.4k $349.00* **3983**

This new 9600bps modem has MNP5, V.42bis and V.32 error correction and data compression.



SupraRam RX
2506 1MB 129.00*
SupraRam RX
2773 2MB 189.00*
SupraRam 500
1585 512k 39.95*

Due to industry fluctuation, RAM prices are subject to change without notice
* Specials - This month only

The Kitchen Sync

$1599.00 **3639**

Two Complete TBC's on one card
Works with any video source
S-VHS and Hi-8 compatible
Optional Y/C output

Great for use with the Video Toaster

DIGITAL CREATIONS

The ICD Advantage ICD

2542 AdSpeed™ $179.00
No accelerator in it's price range comes close!

4201 Flicker Free Video™ 2 $239.00
Eliminates interlace flicker for any Amiga computer.

1652 AdRAM 540™ $89.95
Memory expansion for the Amiga 500. Expansion up to 4 megabytes.

Educational, Corporate and Aerospace purchase orders accepted. Call (310) 542-2292 for details.

USE OUR TOLL-FREE INTERNATIONAL PHONE LINES

Australia 0014-800-125-712 ; Canada 1-800-548-2512; Denmark 0434-0297; France 19-0590-1099; Italy 1678-74086; Japan 0031-11-1351; Netherlands 06-022-8613; Norway 050-12029; Switzerland 046-05-3420; United Kingdom 0800-89-1178.

FONTS

GENERAL FONTS

——	ALL AGFA FONTS AVAILABLE	CALL
0821	KARA ANIMFONTS 1	29.95
0822	KARA ANIMFONTS 2	29.95
1837	KARA ANIMFONTS 3	29.95
3758	KARA ANIMFONTS 4	35.95
0337	KARA FONTS HEADLINES	44.95
0358	KARA FONTS HEADLINES2	39.95
3759	KARA FONTS HEADLINES 3	46.95
1838	KARA FONTS STARFIELDS	34.95
0359	KARA FONTS SUBHEADS	39.95
0095	MASTERPIECE FONTS	159.00
3319	600 AMIGA FONTS	19.95
——	SOFTFACES FOR FINAL COPY:	
4062	-VOLUME I	59.95
4066	-VOLUME II	59.95
4271	-VOLUME III	59.95
4272	-VOLUME IV	59.95

DTP/PAGESTREAM FONTS

3564	PAGESTREAM CLASSIC FONTS	129.00
3562	PAGESTREAM DESIGNER FONTS	129.00
2827	PAGESTREAM FONT PACK 1	46.95
3560	PAGESTREAM NEWSLETTER FONTS	64.95
2826	PAGESTREAM PLUS PACK	46.95
3561	PAGESTREAM STARTER FONTS	64.95
4160	PRO STREAM PLUS FONTS	42.95

DTP/PROFESSIONAL PAGE FONTS

1714	GOLD DISK DECORATIVE	34.95
1736	GOLD DISK DESIGNER	34.95
1725	GOLD DISK PUBLISHER	34.95
1104	PROF. PAGE OUTLINE CG	129.00

VIDEO/TOASTER FONTS

3197	1ST PRIZE TOASTED FONTS SET 4	40.95
2961	CINNAMON TOAST FONTS VOL I	64.95
2962	CINNAMON TOAST FONTS VOL II	64.95
3155	KARA TOASTER FONTS VOL I	54.95
3156	KARA TOASTER FONTS VOL II	54.95
4282	KARA TOASTER FONTS VOL III	54.95
4283	KARA TOASTER FONTS VOL IV	54.95
3143	MASTERPIECE TOASTER FONTS	89.95

GRAPHICS SOFTWARE AND HARDWARE

ANIMATION SOFTWARE

0387	DISNEY ANIMATION STUDIO	49.95
8839	THE DIRECTOR V2.0	74.95
3850	FRACTAL PRO 5.0	CALL
4545	SCENERY ANIMATOR 2.0	59.95
——	SCENERY ANIM. DATA DISKS:	
3784	-GRND CANYON	18.95
3786	-OAHU	18.95
3785	-YOSEMITE	18.95
2951	SURFACE MASTER FOR IMAGINE	25.95
3856	VISTA PROFESSIONAL 2.0	59.95
——	VISTA PRO 2.0 DATA DISKS:	
2456	-CALIFORNIA	29.95
2759	-FLAMING GORGE-DATA 2	29.95
2755	-GRAND CANYON-DATA 1	29.95
2756	-GRAND CANYON-DATA 2	29.95
2758	-JACKSON HOLE- DATA 1	29.95
2455	-MARS SCAPES	29.95
2757	-WESTERN U.S.	29.95

CLIP ART DISKS

——	MATERIALS TEXTURE:	
2704	-VOL. I STONE SURFACES	29.95
3205	-VOL. II TILES	29.95
3383	-VOL. III WOOD	29.95
3745	PRO FILLS 2	34.95
2821	SOFTCLIPS VOL I CLASSIC	44.95
2781	SOFTCLIPS VOL II PEOPLE	44.95
2948	SOFTCLIPS VOL III COLLECT.	44.95
2957	SOFTCLIPS VOL IV ANIMALS	44.95
4207	VIDEO TOASTER: FLAGS OF THE WORLD	52.95

CAD

2659	DYNA CADD	499.00
1267	INTROCAD PLUS	64.95
3649	PRO BOARD/NET PACKAGE VERSION 2.0B NTSC/PAL	289.00

PAINT/DRAW SOFTWARE

4096	DELUXE PAINT IV V4.1	119.00
3000	DESIGN WORKS	79.95
2535	IMAGE FINDER	32.95
4248	PROFESSIONAL DRAW 3.0	129.00
2685	SPECTRA COLOR	54.95

PAL SPECIFIC VIDEOSOFTWARE

4270	BROADCAST TITLER II SUPER HIGH RES PAL	279.00
3880	IMAGINE 2.0 PAL	299.00
2534	PRO VIDEO POST PAL	199.00
3985	VISTA PROFESSIONAL 2.0 PAL	64.95

UTILITY/MISC.

BACKUP/COPY SOFTWARE

4175	LOCK PICK	36.95
4698	RAW COPY 1.3K	36.95
1912	X-COPY PROFESSIONAL	45.95

TELECOMMUNICATIONS SOFTWARE

1788	A TALK III	42.95
0635	BAUD BANDIT	27.95
4605	CNET V2.4 BBS	84.95
1875	MINDLINK TELECOM	28.95
3009	ONLINE PLATINUM	39.95
4165	STARNET BBS	30.99
4153	SUPRA GP FAX SOFTWARE	74.95

DOS TOOLS/UTILITIES

4222	AMI BACK 2.0	39.95
4410	ASDG ADPRO JX-100 MODULE	84.95
0120	BAD DISK OPTIMIZER 4.1	24.95
4332	CROSS DOS 5.0	39.95
3262	DIRECTORY OPUS	36.95
3200	DISKMASTER II	42.95
2341	DJ HELPER	29.95
4463	GIGAMEM	82.95
0694	MAC 2 DOS	90.95
4363	MAVERICK 5.0	27.95
4124	QUARTERBACK 5.0	44.95
1847	QUARTERBACK TOOLS	52.95
3975	SUPER DJ 500C	32.95
4464	TURBO PRINT	69.95
4465	QUMA VERSON CONTROL SYSTEM	69.95

MUSIC

GENERAL MUSIC SOFTWARE

0863	BARS AND PIPES	39.95
2720	BARS AND PIPES PROF.	209.00
3359	CREATIVITY KIT	32.95
1270	INTERNAL SOUNDS KIT	32.95
1751	MULTI MEDIA KIT	32.95
1271	MUSIC BOX A	32.95
1750	MUSIC BOX B	32.95
3352	PRO STUDIO KIT	32.95
1596	RULES FOR TOOLS	32.95
1550	DR. T'S COPYIST DTP	190.00
2797	DR. T'S KCS LEVEL II V3.5	229.00
3890	PATCHMEISTER	49.95
1260	PIXOUND	56.95
3507	SONIX	51.95
3667	SUPER JAM!	89.95
1584	TIGER CUB	79.95

SAMPLING SOLUTIONS

3348	GVP DIGITAL SOUND SAMPLR	84.00
4504	PERFECT SOUND 3.1	70.95
2800	SOUNDMASTER/	

HP DeskJet 500 $389.00 — 1740

HP DeskJet 500C (Color) $499.00 — 3367

SOUND MINDS — MUSIC SOFTWARE FOR

Amiga Music at Unheard-Of-Prices!

THE BLUE RIBBON SOUNDWORKS LTD

New low price! Bars & Pipes $39.95!! — 0863

FREE!!! Buy $100 worth of Blue Ribbon Products, get Who, What, When, Where FREE!!!



PatchMeister .... $49.95 — 3890
Universal Patch Librarian

Bars&Pipes Professional .... $209.00 — 2720
State of the Art MIDI Sequencing

SyncPro .... $179.00 — 4157
SMPTE Time Code Reader/Generator

Triple Play Plus ...... $165.00 — 3891
48 MIDI channels via one interface

SuperJAM! .... $89.95 — 3667
Write music without ever touching an intrument

Coming Soon... The One-Stop Music Shop
16-Bit, 32-voice, CD-quality, fully digital stereo audio for your Amiga.

UNLEASH THE POWER!

The Publishing Team with the Genie Edge
Buy the Bundle & Save a Bundle
Get Both for Only $219.00!

Professional Draw 3.0 $129.00 — 4248



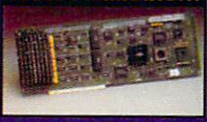
Professional Page 3.0 $169.00 — 3854

Introducing an exciting new product from IVS...

VECTOR — THIRD GENERATION 68030 PROCESSOR ACCELERATOR
BY INTERACTIVE VIDEO SYSTEMS

- 32-Bit RAM Expansion to 32 MB
- 25Mhz 68030
- On-Board SCSI
- 2630 Compatible Expansion port
- The first and only '030 accelerator with Pro-Plex allowing on-board SCSI and RAM to be accessed in the 68000 mode.

Now Available!!!



$629.00 — 4232



Scenery Animator 2.0 ..... $59.95

- Create beautiful landscape scenes and animations
- Render realistic 3-D trees
- Create infinite fractal landscapes

4545

Creative™ COMPUTERS

U.S. ORDERS ONLY: **800-872-8882**
CANADA: 1-800-548-2512
4453 Redondo Beach Blvd., Lawndale, CA 90260

CUSTOMER SERVICE OR **310-214-0000** ORDER STATUS
NEW Christmas Hours
Mon-Fri 7-6 PST Sat 8-6 Sun 11-6
FAX: 310-214-0932

	AUDIOMASTER BUNDLE	139.00
4041	SUNRIZE INDUSTRIES AD1012 12-BIT SAMPLER	529.00
4516	SUNRIZE INDUSTRIES AD516 16-BIT SAMPLER	1359.00
4157	SYNC PRO	179.00
3891	TRIPLE PLAY PLUS	165.00

PROGRAMMING SOFTWARE

9010	AMIGA VISION	99.00
3165	AMOS THE COMPILER	45.95
4413	AMOS THE CREATOR NORTH AMERICAN VER.	64.95
4534	AMOS PROFESSIONAL	89.95
3229	AMOS 3D PAL	42.95
9965	AZTEC C DEVELOPERS SYSTEM PLUS SDB	195.00
2687	AZTEC C PROFESSIONAL	129.00
1753	CANDO PROPAK 1	23.95
4525	CANDO 2.0	114.00
0078	CAPE 68K ASSEM 2.5	52.95
6654	CYGNUSED PROF. REL. 2	58.95
4512	EASY AMOS W/BOOK	39.95
3921	HISOFT DEVPAK 3	79.95
3924	HISPEED PASCAL	109.00
3264	INOVATOOLS II	59.95
3964	JFORTH PROFESSIONAL 3.0	135.00
1302	POWER WINDOWS 2.5	52.95
4439	REXX PLUS COMPILER	119.95
4334	SAS/C DEVELOPMENT SYSTEM VER. 6	269.00
2688	SCALA v1.1	299.00
2850	TURBOTEXT	64.95

TAPES/TUTORIAL

2829	ANIMATION 101	24.95
3160	DCTV...A GUIDED TOUR	26.95
3676	DCTV...A GUIDED TOUR PAL	26.95
3512	DELUXE PAINT 4 VIDEO GUIDE	19.95
3617	DELUXE PAINT 4 ADVANCED TECHNIQUES VIDEO	19.95
2543	IMAGINE: A GUIDED TOUR	26.95
2828	IMAGINE: A GUIDED TOUR PAL	26.95
——	TOASTER ESSENENTIALS VIDEOS:	
4457	-TOASTER PAINT	34.95
4458	-TOASTER CG	34.95
4460	-STEP BY STEP GUIDE	34.95
4461	-ADVANCED TECHNIQUES	34.95
4379	VIDEO TOASTER MADE EASY	24.95

TAPES/GENERAL

2788	AMIGA PRIMER VIDEO	19.95
1239	AMIGA WORLD VIDEO ANIMATION VOLUME I	13.95
2937	AMIGA WORLD VIDEO ANIMATION VOL II	19.95
4559	BEYOND THE MIND'S EYE	14.95
1841	MUSICAL AMIGA VIDEO	23.95

BOOKS

2787	AMIGA DOS 2..0 COMPANION	19.95
3372	AMIGA HARDWARE REFERENCE MANUAL	19.95
4339	AMIGA INTERN	32.95
——	AMIGA ROM KERNEL:	
2093	-INCLUDES & AUTODOCS	29.95
4210	-LIBRARIES	29.95
3501	-DEVICES	24.95
2976	AMIGA USER INTERFACE STYLE GUIDE	19.95
4436	AMOS GAME MAKER'S MAN'L	26.95
4361	AREXX COOKBOOK	22.95
4368	CIVILIZATION: THE AUTHORIZED GUIDE	13.95
4424	SECRET OF MONKEY ISLAND II HINT BOOK	9.95
4082	UNDERSTANDING IMAGINE 2.0	26.95

GAMES

ARCADE GAMES

2841	ARMOUR GEDDON	29.95
1887	AWESOME	34.95
4193	CONAN THE CIMMERIAN	29.95
4433	DGENERATION	34.95
1123	DRAGON'S LAIR SINGE CSTL	43.95
2445	DRAGON'S LAIR TIME WARP	34.95
4288	EPIC	39.95
3670	FANTASTIC VOYAGE	29.95
2914	GODS	26.95
4276	GUY SPY	29.95
4362	HOI	26.95
1779	IMMORTAL	30.95
4291	JAGUAR XJ-220	35.95
1749	KILLING GAME SHOW	26.95
2642	LEMMINGS	29.95
3666	LEMMINGS DATA DISK	13.95
4393	MAGIC POCKETS	17.95
4340	NOVA 9	24.95
2516	OBITUS W/T-SHIRT	26.95
4197	PINBALL DREAMS	27.95
4060	PIT FIGHTER	24.95
1770	PRINCE OF PERSIA	25.95
4396	PROJECT X	36.95
4580	ROBOCOP 3D	36.95
1688	SHADOW OF THE BEAST II W/T-SHIRT	26.95
4470	SHADOW OF THE BEAST III	36.95
3669	SPACE ACE II	38.95
2585	SPEEDBALL 2	26.95
4281	TENGEN'S ARCADE HITS	26.95
4417	UTOPIA	32.95

ACTION/STRATEGY

1658	BATTLE CHESS	31.95
3956	CASTLES	39.95
1735	CHECKMATE	35.95
4344	CIVILIZATION	45.95
0984	CLUE	14.95
4294	GLOBAL EFFECT	34.95
4397	HOOK	39.95
1766	M1 TANK PLATOON	35.95
2754	MONOPOLY	16.95
4407	PUSHOVER	39.95
2968	RAILROAD TYCOON	39.95
4215	ROBO SPORT	36.95
4020	SIM ANT	39.95
0508	SIMCITY	32.95
2712	SIMCITY GRAPHICS # 1 ANCIENT CITIES	16.95
2713	SIMCITY GRAPHICS # 2 FUTURE CITIES	16.95
4323	SIM EARTH	45.95
2380	STAR CONTROL	22.95
0010	TETRIS	24.95

ADULT GAMES

7564	CENTERFOLD SQUARES	19.95
4358	LEISURE SUIT LARRY I ENHANCED	35.95
0813	LEISURE SUIT LARRY II	35.95
2597	LEISURE SUIT LARRY III	35.95
3796	LEISURE SUIT LARRY V	39.95
3386	STRIP POKER III	29.95
3387	STRIP III DATA 1	16.95
3388	STRIP III DATA 2	16.95
3389	STRIP III DATA 3	16.95
3390	STRIP III DATA 4	16.95
3965	STRIP III DATA 5	16.95
4423	STRIP III DATA 6	16.95

WAR/STRATEGY

4579	CAMPAIGN	36.95
4578	COMBAT CLASSICS	29.95
4131	CONFLICT: KOREA	43.95
4296	CYBER EMPIRE	34.95
1846	HARPOON	41.95
2663	HARPOON BATTLESET #3 MEDITERRANEAN CONFLICT	20.95
4297	HARPOON DESIGNER' SERIES	34.95
2838	HARPOON SCENARIO EDITOR	27.95
3244	HARPOON CHALLENGER PACK	62.95
4133	NAPOLEON	34.95
4589	NO GREATER GLORY	49.95
4121	PACIFIC ISLANDS	29.95
0577	POPULOUS	29.95
3720	POPULOUS II	38.95
1845	POWERMONGER	33.95



MegAChip 2000/500

$209.00 w/o Agnus • $269.00 with Agnus
3753 4229

D K B

Multistart II

Provides for Amiga 500's & 2000's to operate under Workbench 1.3 & 2.0 ... $29.95
3272



Digital Micronics, Inc.



Each floptical disk looks and handles just like a standard 3.5" floppy but stores a whopping 20mb of data.

$599.00
3726

SyQuest Drives

These packages include the SyQuest drive, 1 cartridge & all neccesary cables. External models include a case.

44mb for Amiga 2000
$399 internal/ $469 external kit
4532 55396

88mb for Amiga 2000
$569 internal/ $629 external kit
4533 55397

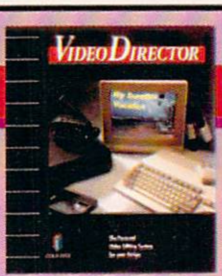
GVP GREAT VALLEY PRODUCTS



Impact Vision 24

16 Million colors, 24-Bit Frame Buffer + Genlock + Framegrabber + Flicker-Eliminator + PIP + Video Titler + 3D Modelling System and now includes a Video Transcoder Unit!

A3000-IV24 .... $1879.00 3296
A2000-IV24 Adapter $49.00 3618



Gold Disk VIDEO DIRECTOR

- Complete Video Editing System for everyone with a camcorder, VCR and an Amiga!
- Quickly and easily catalog and edit the best moments from your video tapes!
- Includes hardware to control most camcorders and VCR's!

only $149.00!
3699



DeluxePaint IV

The King of Paint and Animation

- Full-screen metamorphosis
- Optimized HAM painting modes
- Scalable fonts
- Improved support for AmigaDos 2.04
- Still easy to use!

Version 4.1
$119.00
4096
ELECTRONIC ARTS®



Cinemorph ... $99.95

4391

- Static or Full-motion morphing
- Multi-Speed morphing
- SPLINE and LINE morphing methods
- 24-Bit color and 8-Bit grayscale modes available

Prices Effective December 1,1992

3237	POWERMONGER WWI DATA	19.95
4389	SPOILS OF WAR	36.95
3966	THE THIRD REICH	28.95
4275	VIKINGS	39.95
3260	WORLDS AT WAR	29.95

ROLE PLAYING

2569	BANE OF THE COSMIC FORGE	38.95
2667	BARD'S TALE III THIEF OF FATE	34.95
3721	BLACK CRYPT	34.95
2463	CHAOS HINTDISK: DUNGEON MASTER II	14.95
4137	DARK QUEEN OF KRYNN	34.95
0002	DUNGEON MASTER	19.95
2443	DUNGEON MASTER II CHAOS STRIKES BACK	19.95
2674	EYE OF THE BEHOLDER	16.95
4017	EYE OF THE BEHOLDER II	38.95
0503	KING'S QUEST IV	38.95
3369	KING'S QUEST V	38.95
4054	LOST TREASURES OF INFOCOM	45.95
2843	MEGATRAVELLER	38.95
4577	MEGATRAVELLER II	39.95
4295	TREASURES OF THE SAVAGE FRONTIER	34.95
2379	ULTIMA V: WARRIORS OF DESTINY	35.95
4073	ULTIMA VI: THE FALSE PROPHET	44.95

FLIGHT SIMULATORS

4038	A-10 TANK KILLER 1.5	39.95
4249	AIR SUPPORT	29.95
3233	BIRDS OF PREY	34.95
2967	F15 STRIKE EAGLE II	39.95
1819	F19 STEALTH FIGHTER	34.95
0115	FALCON	32.95
1839	FALCON MISSION DISK 2	19.95
4535	FIGHTER DUEL PROFESSIONAL	34.95
2551	FLIGHT SIMULATOR II	32.49
3791	KNIGHTS OF THE SKY	39.95
3246	MEGAFORTRESS: FLIGHT OF THE OLD DOG	39.95
4298	MEGAFORTRESS: MISSION 1	27.95
4299	MEGAFORTRESS: MISSION 2	27.95
3987	MIG 29: ACCOLADE	36.95
3760	RED BARON	39.95
3819	THUNDERHAWK	34.95
4547	TRACON II	38.95

GRAPHIC/ADVENTURE

4395	DUNE	39.95
2409	ELVIRA	29.95
3970	ELVIRA II	29.95
3710	HEART OF CHINA	39.95
4429	LORDS OF TIME	29.95
4527	LURE OF THE TEMPTRESS	34.95
3789	OUT OF THIS WORLD	39.95
4450	PLAN 9 FROM OUTER SPACE	32.95
4039	POLICE QUEST III	39.95
3339	RISE OF THE DRAGON	39.95
4341	ROBIN HOOD: CONQUEST OF LONGBOW	38.95
4136	SECRET OF MONKEY ISLAND 2	38.95
1123	SINGE'S CASTLE DRAGON'S LAIR	34.95
4127	SPACE QUEST I ENHANCED	34.95
3953	SPACE QUEST IV	39.95
2550	SPIRIT OF EXCALIBUR	32.49
3236	STARFLIGHT II	34.95
2445	TIME WARP DRAGON'S LAIR II	34.95
3763	WILLY BEAMISH	39.95
2915	WONDERLAND	19.95

SPORTS ENTERTAINMENT

0961	BRIDGE 6.0	25.95
4392	CALIFORNIA GAMES II	26.95
4581	ESPANIA GAMES '92 SPORTS	29.95
2851	FAST EDDIE'S POOL	22.95
3756	GRETZKY HOCKEY 2	42.95
4065	HOYLE BOOK OF GAMES 3	29.95
1842	INDIANAPOLIS 500	34.95
4329	INTERNATIONAL SPORTS CHALLENGE	29.95
1782	ISHIDO	29.95
4048	LINKS GOLF	39.95
4195	LINKS DATA DISK BOUNTIFULL COUNTRY CLUB	17.95
4196	LINKS DATA DISK FIRESTONE COUNTRY CLUB	17.95
2669	PGA TOUR GOLF	34.95
4411	RED ZONE	29.95
4520	SOLITAIRE'S JOURNEY	38.95
3973	WORLD CIRCUIT GRAND PRIX	39.95

CDTV TITLES

2926	ADVANCD MILITARY SYS.	29.95
2752	ALL DOGS GO TO HEAVEN	35.95
2922	AMERICAN HERITAGE DICTIONARY	49.95
3368	AMERICAN VISTA MULTIMEDIA US ATLAS	59.95
——	BARNEY BEAR:	
3201	-GOES CAMPING	27.95
2740	-GOES TO SCHOOL	27.95
4184	BATTLE CHESS	39.95
2750	CASE OF THE CAUTIOUS CONDOR	35.95
3251	CASE OF THE MISSING BLANKET	34.95
3278	CD REMIX	32.95
4252	CDTV FOR KIDS VOL. 1	49.95
4253	CDTV FOR KIDS VOL. 2	49.95
4254	CDTV FOR KIDS VOL. 3	49.95
2751	CLASSIC BOARD GAMES	35.95
4374	CONNOISSEUR OF FINE ARTS	29.95
3190	DEFENDER OF THE CROWN	39.95
2833	ELECTRONIC COOKBOOK	43.95
4053	FANTASTIC VOYAGE	29.95
4159	FRED FISH BBS ONLINE	48.95
2794	FRED FISH COLLECTION	48.95
2944	FUN SCHOOL 3	35.95
3360	GARDEN FAX: INDOOR PLANTS	42.95
4540	GUY SPY	29.95
3191	HOUND OF THE BASKRVILLES	39.95
3166	ILLUSTRATD HOLY BIBLE	34.95
3167	ILLUSTRATD SHAKESPEARE	34.95
3164	LEMMINGS	36.95
3797	MURDER MAKES STRANGE DEADFELLOWS	34.95
3209	MUSIC MAKER	39.95
2798	MY PAINT	29.95
3879	NASA: THE 25TH YEAR	19.95
3596	PAPERBAG PRINCESS	34.95
3751	POWER PINBALL	26.95
3179	PSYCHO KILLER	39.95
3599	SCARY POEMS FOR ROTTEN KIDS	39.95
4511	SHERLOCK HOLMES: THE CONSULTING DETECTIVE	44.95
3180	SIM CITY	39.95
3598	TALES OF PETER RABBIT	39.95
3597	THOMAS'S SNOWSUIT	34.95
——	TIME TABLE CD'S:	
2862	-SCIENCE & INNOVATION	44.95
2863	-BUSINESS & POLITICS	44.95
4541	ULTIMATE BASKETBALL	34.95
3202	WOMEN IN MOTION	39.95
2779	WORLD VISTA	64.95
2941	WRATH OF THE DEMON	34.95

ACCESSORIES/MISC

——	CABLES FOR MOST NEEDS USES AVAIL.	CALL
——	DUST COVERS AND KEYBOARD SKINS AVAIL.	CALL
6501	FLICKER MASTER	12.95
4543	HYPER MOUSE PAD	11.95
——	KEYBOARD TEMPLATES FOR TOASTER CG, TOASTER SWITCHER, DCTV & DPAINT IV FOR AMIGA 500/2000/3000	CALL
4440	STAR TREK MOUSE PAD 10 X 10	13.95
4441	STAR TREK: NEXT GENERATION MOUSE PAD	13.95

DSS-8 .. $84.00 3348

Record, edit, compose...with a high-quality, stereo sound sampler. Includes a fast, powerful, easy-to-use editor and a self-contained 4-track sequencer.



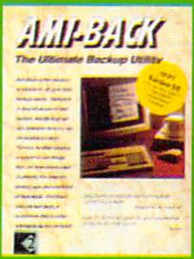


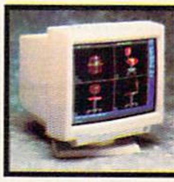
ProWrite New! Version 3.3 $59.95 4406

- Supports Hotlinks
- 100,000 word Spell Checker.
- Thesaurus with 300,000 word cross reference.

Ami-Back.... $39.95 4222

- Ami-Back is the fastest hard disk backup program for the Amiga.
- Backs up to floppies, HD floppies, hard drives, and SCSI tape and DAT drives.
- Ami-Back's new "911-Recovery" mode recovers lost data without the need for disk utility programs.
- Compress data during backup with no speed loss (to floppy).
- Missing disks may be skipped during restores.
- Supports multiple-device backups.





Idek MF-5017 .... $999.00 4143

Large 17" Screen
Works on all Amigas!
Up to 1024 x 768 Resolution
Perfect for OpalVision

Firecracker 24

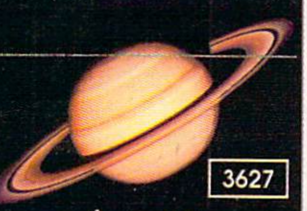


- High-resolution
- 16.8 Million Colors
- 24-Bit graphics display card
- Works on the Amiga 2000, 2500, 3000

$819.00 2 Meg Version 2431

Voyager

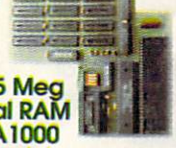
the Dynamic Sky Simulator™



3627 $64.95

D K B Insider II

$149.00 3271



Up to 1.5 Meg of internal RAM for the A1000 with clock/calendar

Imagine Bundle!

Imagine plus Imagine: A Guided Tour video





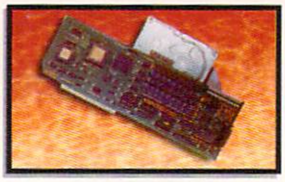
$79.95 4208

Includes free object disk and you can upgrade to 2.0 for $100!

Prices Effective December 1,1992

Circle 13 on Reader Service card.

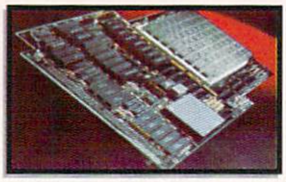
The Amiga Deal of the Century!



G-Force 030 A2000

- 68030 running at 40Mhz
- 68882 running at 40Mhz
- 4mb of 32-Bit RAM (16mb max.)
- Onboard Series II SCSI Controller
- Hard Drive mountable
- All on one board (while supplies last)

$999.00 3843



G-Force 040 A3000

- 68040 running at 28Mhz
- 0 to 8mb of onboard, 40ns, non-multiplexed DRAM. (24mb max.)
- Software switchable 68030 mode for compatibility
- Full DMA to/from the on-board DRAM by any A3000 peripheral

$999.00 3653

Get it tomorrow at no extra charge!*

FEDERAL EXPRESS

*Must order by 5:00am EST

GVP GREAT VALLEY PRODUCTS

Image F/X.. $249.00

Total Image Processing Package!
RGB, CMYK, HVS adjustment
Full Motion Morphs
More... 4609

NOW SHIPPING A2000 G-FORCE 040

A2000 G-Force '040 Combo

33Mhz w/4MB..................... $1999.00

4MB Installed Up to 16MB (add in 4MB SIMM increments)
Up to 64MB w/availability of 16 MB SIMM
Hard Drive Option or GVP EGS Color Graphics Option
High Speed SCSI Controller
On-board Parallel and Serial Port 4322

More G-force Accelerators:

G-force 25MHz/1MB/68882	$599.00	3937
G-force 40MHz/4MB/68882/120MB HD	$1349.00	4530
G-force 50MHz/4MB/68882	$1469.00	3754
G-force 50MHz/4MB/68882/213MB HD	$1989.00	3846

Ask about special RAM pricing when ordered with an accelerator board!



A530 Turbo

- A500 HD8 with 40mhz 68030
- 1mb of 32-Bit RAM expandable to 8mb
- Socket for 68882 Math chip
- "Mini Slot" for PC emulator & more!
- Turbo switch for compatibility.
- Includes SCSI pass thru.
- Dedicated power supply included!

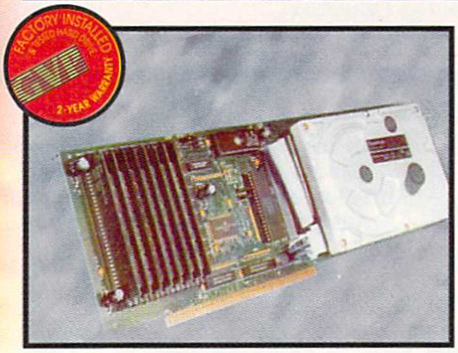
A530 w/80mb drive $929.00 4475
A530 w/120mb drive $999.00 4219

A500 HD+

A500-HD+ w/120mb HD .. $599.00 3848
A500-HD+ w/213mb HD .. $899.00 4476

PC286 Module

(Optional PC286 AT compatibility.
16Mhz 286 board which plugs inside hard disk unit) $159.00 3655

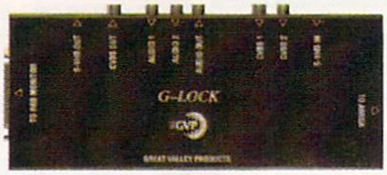


Hard Cards

Series II A2000 SCSI Hard Disk and RAM Card:

A2000-HC8+0/120 (120Mb Hard disk) $499.00 3849
A2000-HC8+0/213 (213Mb Hard disk) $699.00 4398

G-LOCK™



Works with all Amiga's & CDTV
External SVHS Genlock
Real-time Software Control
Audio follow video feature

$449.00 4526

PHONE PAK

4333

Now, your Amiga® 2000/3000 is a Computer, Fax Machine, VoiceMail System, and Answering Machine all at once!

All for just $399.00

Prices Effective December 1,1992

The Creative Computers Low-Price Guarantee.

Creative Computers *is* the service and low-price leader and the largest Amiga mail-order company. Check out the prices in this ad, then in the unlikely event that you find a lower price anywhere else in this magazine, we'll beat it!***

10 reasons why you should only buy from Creative Computers!

- The largest Amiga mail-order company by far!
- The largest and best Amiga computer dealer (authorized by Commodore)
- The largest and best Amiga Service & Tech Support center.
- The largest selection, the best service
- The best prices!
- The fastest delivery (overnight service).
- Money-back guarantee, see separate MBG rules.
- The first Amiga authorized mail order company.
- Fastest order-entry system, so you wait less on the phone!
- The most knowledgeable salespeople who can offer you assistance in selection, system configuration, etc.

Overnight Delivery Only $5.95*

Order by 2:00pm PST and get your order tommorow!

*For what other companies charge for ground service that may take up to 9 days

FEDERAL EXPRESS

- Offer is valid thru Dec. 31st, 1992 and applies to in stock items only. Continental U.S. only.
- Credit card problems, system problems, Acts of God, shipping to a different address than your billing address, and orders shipping to some rural areas or small cities will incur additional processing and shipping time.
- Orders over 3 lbs. incur additional shipping charges.

The Creative Computers Exclusive Money Back Guarantee Program

(CC-MBG)

When you purchase any accelerators, floppy drives, memory expansions, hard drives and hard drive controllers or any GVP Hardware from Creative Computers, you are protected by a full 30-day, No-Questions-Asked Money Back Guarantee!

Are you in the market for a GVP Impact Vision but don't know if it will work right with your set-up? Or are you waiting for your Amiga to compute but don't know what an accelerator will mean in practical terms to you? You need not wait any longer. Just buy it from us, and if you don't like it, send it back for a full refund!

OUR POLICIES

CC-MBG rules: Limited-time offer expires 12/31/92 and only applies to the above listed categories only. You must call Customer Service to obtain a Return Authorization number before sending the item(s) back. The item(s) must be in original condition and in original packaging, with blank warranty card. No damaged items will be accepted. Refunds issued within 14 days of receipt of the returned item(s). Refund is limited to $3,000 per customer. No refunds on freight or labor charges. CUSTOMER SERVICE: for tech support call 310-542-2292 from 11 a.m. to 7 p.m. PST. ***Standard Overnight Service* by Federal Express is not available in all areas. Those "Extended Areas" take two days. Check with your local Federal Express station for delivery confirmation and delivery times. COD's add $6-No Personal /Company checks. Call for all other shipping information. Educational, corporate and aerospace purchase orders accepted. All advertised prices are CASH prices. Visa/ Master Card same as cash; American Express add 4%; Discover add 1%. RETURN POLICY: Call Customer Service at (310) 214-0000 for return authorization. All returns without authorization number (RMA#) will be refused. Returned products must be in original condition and packaging and must be sent back within 30 days of our invoice date. No refunds, please. Defective product exchanges only. We make no guarantees for product performance. Exchanges with unlike products are at our option and subject to a 20% re-stocking fee. CONDITIONS: Prices and availability of product are subject to change without notice. MAIL IN ORDERS: Send money orders or cashiers check for fastest service. Personal checks - 10 days to clear. Include: Name, Address and telephone number (no P.O. Boxes, please). If ordering by credit card include expiration date and billing address. Call for exact shipping rates. INTERNATIONAL TOLL FREE ORDERING POLICIES: For Canada, FPO, APO - Minimum order $50. All other countries: minimum order $100. For VISA and Master Card orders you must FAX or mail a signed photocopy of your credit card - front and back. Please have your credit card number ready before calling. INTERNATIONAL PHONE NUMBERS: Orders only please. Canada 1-800-548-2512; Italy 1678-74086; United Kingdom 0800-89-1178; France 19-0590-1099; Australia 0014-800-125-712; Switzerland 046-05-3420 ***PRICE GUARANTEE: U.S. Only. Applies to all merchandise advertised by all authorized Amiga dealers except merchandise on sale and out-of-stock. We will give you our "delivered" price lower than the other authorized Amiga dealer's "delivered" price.

VISA MasterCard American Express Discover

Overnight Shipping via: FEDERAL EXPRESS

ORDER BY PHONE -OR- MAIL IN THIS FORM

ORDER FORM

1. Call for most current prices and shipping rates.
2. Mail this order form to:
   CREATIVE COMPUTERS at: 4453 Redondo Beach Blvd., Lawndale, CA 90260
3. Credit card orders only shipped to billing address.

Name ______________________________

Address ______________________________

City ______________ State ____ Zip ________

Country ______________________________

Day Phone# ( ) ________ Night Phone# ( ) ________

QTY.	PRODUCT NAME	UNIT PRICE	TOTAL
	8.25% SALES TAX (CA. RES.ONLY)		
		SHIPPING	
		TOTAL	

SHIPPING METHOD: (Call for rates)

- ☐ UPS Ground ☐ Airborne Express
- ☐ DHL -International orders
- ☐ Other_______________

OFFER CODE: P2C401MG

Method of Payment ☐ Check ☐ Money Order ☐ Visa ☐ MasterCard ☐ American Express ☐ Discover

CREDIT CARD USERS ONLY:

Credit Card # ____________________ Exp. Date ___/___

Signature ______________________________

Prices Effective November 1,1992

Circle 13 on Reader Service card

From p.26.
100MB hard disk over to a new file compressor is quite a tall order. (Incidentally, I tempted fate for over a month by using GigaMem with my Power-Packed hard disk with no adverse effects.) Finally, GigaMem is not (yet) compatible with the 68040, so my recent upgrade to the Amiga 4000 has meant leaving this worthwhile utility behind.

—Dave Johnson

CrossDOS 5.0 Plus CrossPC

***Consultron*, $59.95.**

Hard-drive installable.
Not copy protected.
2.0 compatible.
Accelerator compatible.
Minimum system: 1MB RAM.
Recommended system: 3MB RAM, hard drive, accelerator.

Reads and Writes MS-DOS disks and emulates an IBM XT

No matter how much you love your Amiga there may come a time when you have to exchange files with users of MS-DOS or Macintosh computers. How do you get the office PC to recognize the disk you created on your Amiga? If you have Consultron's CrossDOS 5.0 Plus CrossPC the answer is simple. You format an MS-DOS-compatible disk on your Amiga or run MS-DOS software without any additional hardware.

CrossDOS 5.0, included with version 2.1/3.0 of the Amiga's Workbench software, provides an easy and transparent way to transfer your work among computers capable of reading and writing an MS-DOS-format disk. In addition to MS-DOS computers, MS-DOS disks can be used with most Macintosh and Atari ST computers. CrossPC, which isn't included with the new Workbench, uses software to emulate an IBM XT compatible computer on your Amiga.

Moving CrossDOS Plus CrossPC to a hard drive is a snap with the included installer. In addition to placing the proper files on your hard drive, the installer automatically sets up an Amiga partition for CrossDOS/PC use. If you're familiar with previous CrossDOS versions, you'll really appreciate the ease of installation and use of 5.0.

Two Drives in One

CrossDOS 5.0 automatically provides each of your Amiga drives a dual personality. Any disk inserted in your Amiga is checked for format and the proper icon is displayed on the Amiga's Workbench. If you insert an MS-DOS disk in df0:, for example, you could access it from Amiga software as drive pc0:, the CrossDOS equivalent of an MS-DOS formatted disk in drive df0:. File managers, such as DirectoryOpus (INOVAtronics), automatically add the PC-drive equivalents to the list of available Amiga drives.

Unless your Amiga has a high-density drive, however, you're limited to using low-density 720K MS-DOS disks. The recently introduced high-density Amiga disk drives can use and format both 720K and 1.44MB MS-DOS disks. In addition, CrossDOS can also be configured for use with floptical drives.

CrossDOS also includes replacements for the Amiga's DiskCopy and Format commands. Format lets you easily format disks in either MS-DOS or Amiga format and sports a sharp new interface when run from the Workbench. The new DiskCopy supports copying MS-DOS disks between two drives. According to Consultron, these are the same commands supplied with WorkBench 2.1/3.0 and are provided under license to Commodore.

As I indicated, CrossDOS 5.0 is included with the latest versions of the Amiga Workbench. So, why buy CrossDOS 5.0 Plus CrossPC? Consultron states it will not support users who receive CrossDOS 5.0 with WorkBench 2.1/3.0. If you want future upgrades, you must purchase the stand-alone version. The most compelling reason for buying CrossDOS 5.0, however, is the plus of CrossPC.

Simply having access to files isn't enough when you need the special abilities of a program that runs only on an MS-DOS computer. If the software works on a standard IBM XT with CGA graphics, chances are excellent it will run on your Amiga under CrossPC. The program uses your Amiga's hardware to emulate CGA or monochrome video, IBM parallel and serial ports, and up to 740K of PC memory. You can use your existing floppy drives, mouse, keyboard, and hard drive to complete your emulated MS-DOS computer.

Keeping Pace

While CrossPC runs on any Amiga, Consultron states that it "will optimize itself to run on accelerated Amigas using 68020, 68030, and 68040 CPUs." I tested CrossDOS on both a 68030-equipped Amiga 2000 and on a 68000-based Amiga 600. On the A2000, Norton's SI, a widely used measure of MS-DOS PC speed, clocked CrossPC at 1.4 times the speed of a 4.77 megahertz XT computer. Using CrossPC at this speed is virtually identical to running a standard XT. On the other hand, SI rated it at .2 times the speed of an XT when run on an A600, a speed I found unusable.

With an accelerated Amiga, CrossPC is extremely useful. I created an MS-DOS partition on my Amiga hard drive and booted CrossPC with MS-DOS 5.0. I installed WordPerfect 5.1 and Library, and both operated as if running on a standard XT. The only MS-DOS software that produced problems were programs using BASIC and Microsoft's Flight Simulator. Both suffered from a lag between user input and software reaction, rendering them unusable with CrossPC. Windows and Windows-based software require an AT 800286-based PC to operate properly, so I did not attempt to run Windows under CrossPC.

CrossDOS 5.0 Plus CrossPC is high on my list of must-have Amiga utilities. If you use multiple computer platforms, you'll wonder how you got by without it.

—Bob Eller

True Print/24

***ASDG*, $89.**

Hard-drive installable.
Not copy protected.
2.0 compatible.
Accelerator compatible.
Minimum system: 1MB RAM.
Recommended system: 2+MB RAM.

24-bit, 256-shade grayscale, and poster printing

Instead of spending many sleepless nights creating your artistic masterpiece only to find out that the printed results were less than expected, you now have a solution. True Print/24 (ASDG, $89) provides control over printing full-color (24-bit) or 256-color grayscale (eight-bit) IFF images to most Preferences printers that support strip printing. (Currently, ASDG knows of only four printers that do not work—two CalComp and two Tektronix models—but it's a good idea to double check on your model.)

True Print/24 provides control over the full 24-bits when printing to a color printer and 256 shades of gray when outputting to a black-and-white printer. Without this program, standard Preferences printers produce 12-bit (4096 colors) and four-bit (16 shades of gray) on color and black-and-white printers, respectively. The results on my LaserJet II ►



Sit back and be entertained by award-winning animations, from professional and novice animators alike. Or learn how you can be more creative and productive with the best selling software and hardware products available for the Amiga.

Formerly *AmigaWorld* Videos

AnimationVol.I SALE! DV10
The original AmigaWorld Animation Video that will fascinate, entertain and inspire viewers as it demonstrates the amazing capabilities of Amiga animation. 48 minutes. $14.95

AnimationVol.II SALE! DV11
AmigaWorld's editors do it again. Exciting, innovative animations using programs such as Lightwave 3D, Imagine, Sculpt-Animate 4-D, and DeluxePaint III. You'll be thoroughly entertained by these animated stories. 90 minutes. **$19.95**

1989 Best of the Fests DV17
A film festival in a box! Award winning animation, comedy, documentary and experimental shorts. 90 minutes. **$24.95**

The Mind's Eye DV13
A compelling look at the universe, utilizing the talents of over 300 top computer animation artists with music composed by James Reynolds. 40 minutes. **$15.95**

Beyond the Mind's Eye DV14
This is a case where the sequel is even better than the original. Coming in October. Soundtrack by Jan Hammer. 40 minutes. **$19.95**

Best of the Fests 1991 DV18
More award-winning animation, comedy, drama, experimental and documentary short films from 1991's top international Film Festivals.90 minutes. **$24.95**

Chronos DV15
New Release! Breathtaking 70mm cinematography captures the timelessness of Stonehenge, the Pyramids, Athens' Acropolis, Mont St. Michel, the Arc de Triomphe, the Vatican and over 50 other locations. 40 minutes. **$15.95**

Green Toons DV16
Just released! Entertainment with a conscience! 14 humorous, pointed and beautiful short films by North American animators. 45 minutes. **$16.95**

Animation of the Apocolypse DV19
Eight astounding independent visions of doom, revelations, and the end of the world! 60 minutes. **$19.95**

History of the Amiga DV12
An intriguing and entertaining look at the origins of the Amiga computer. Listen to the initial trials and tribulations which Jay Miner, R.J. Mical, Caryn Mical, Dale Luck, Carl Sassenrath, Dave Needle and the rest of the original "Los Gatos gang went through. 45 minutes. **$15.95**

Tony Vegas' Animated Acidburn Flashback Tabu DV20
Aural and visual absorbtion. Transcendence. Revelation. Breathe. Dream. Relax. Animations for you to tune into from the early 1980's. 60 minutes. **$19.95**

Taming the Wave DV70
A thorough training system for LightWave 3D. Advanced tutorials and hundreds of animations illustrating every major aspect of LightWave. Includes 2 disks with useful 3D items and 2 Broadcast Fonts. 150 mins. **$99.95**

Toast & Coffee/VideoGrafix Today DV71
This new "magazine" on videotape offers a unique blend of desktop video tips, techniques, product info, trips to user/company sites and much more. **$12.95**

Pro Video Gold Part One DV72
First part of Video Bookshelf's series on everything you need toknow about Pro Video Gold from Shereff Systems. For novice/inter users. **$32.95**

Pro Video Gold Part Two DV73
Part two of the series for intermediate and advanced users. **$32.95**

Animation 101 DV74
Easy to follow tutorial video from Myriad Visual Adventures. See the animations, then learn how to create them. **$24.95**

Amiga Animation Hollywood Style DV50
New Release! Learn classic, Hollywood,Disney-style techniques using DeluxePaint IV and Disney Animation Studio, from renowned Amiga animator, Gene Hamm. Especially for artists who are computer novices and computer users who don't draw with a mouse. 30 minutes **$19.95** ***NEW RELEASE!***

NEW RELEASES FROM DESKTOP IMAGES!

The NewTek Video Toaster 2.0 Tutorial Series

Video Toaster Essentials SALE! DV51 The first of 4 videos, featuring **Video Toaster expert Lee Stranahan**, leads you through a step-by-step guide to the Video Toaster's switcher and special effects. 83 minutes **$29.95**

ToasterPaint Essentials SALE! DV52 Discover the full potential of ToasterPaint as you go through each of its powerful functions step by step. 62 minutes **$29.95**

ToasterCG Essentials SALE! DV53 A step-by- step guide to the Video Toaster's character generator with demonstrations of special techniques.59 minutes **$29.95**

Professional Techniques SALE! DV54 Get more from ToasterPaint and ToasterCG with demonstrations of special techniques to create professional network quality graphics.59 minutes **$29.95**

Killer Graphics: Real Time Solutions With DCTV *NEW RELEASE!* DV67
Volume I. This tutorial series will teach you how to create killer graphics quickly and easily with the most current version of DCTV, using real projects as examples. 54 minutes **$26.95**

Killer Graphics: Animated Logos with DCTV *NEWEST RELEASE!* DV92
Volume II. How to create animated 3D logos. Step by step examples. **$26.95**

The Amiga Primer DV64
The alltime, best seller for getting started with your Amiga, including setup, Workbench, Shell, CLI, expansion, and AmigaVision. A must for every Amiga owner. 90 minutes **$18.95**

Amiga Graphics, Second Edition DV61
Learn the ethics of style and how to use the Amiga for graphics. An ideal tape for getting started. Includes interviews with experts. Features DPaint IV, NewTek's products, Kara Fonts and others. **$14.95 While they last!**

Desktop Video, Volume I DV62
The best tape for getting started with Desktop Video. Excellent advice from experts, including Academy Award winning director Terry Saunders. Features camcorders, editors, peripherals, techniques, titling, and more. **$18.95**

Desktop Video, Volume II DV63
More help on understanding Desktop Video with the Amiga. Includes direct comparisons of tape formats, NewTek's Toaster, LightWave 3D, DPaintIV, DCTV, Virtual Reality, and 24-bit rendering. **$18.95**

How To Animate I *NEW PRICE!* DV58
Relevant to novices and intermediate users alike. Pick up helpful tips and techniques on using DeluxePaintIV from Joel Hagen, and using LightWave 3D from *Amiga-World*'s Lou Wallace. 45 minutes **$16.95**

DeluxePaint IV Video Guide DV59
In easy to follow, step by step fashion, you'll explore many of DPaint IV's features which will meet most of your graphics and animations needs. Includes the new menu structure, Metamorphosis, HAM color mode, the new Gradients and Cycle requesters, the new advanced palette mixer and much more! 60 minutes **$19.95**

Advanced Techniques With DeluxePaint IV DV60
Learn tips and tricks for combining DPaint IV's different tools to achieve spectacular effects with professional results. Create 3D text, drop shadows, textures, cycle color animations, professional titling techniques, and much more! 60 minutes. **$19.95**

Videomaker, The Video Series DV65
The experts at *Videomaker Magazine* will teach you about bringing a documentary to life, professional lighting, camera moves, and most important, generating income with your video equipment. 40 minutes **$16.95**

Imagine, A Guided Tour DV66
This tape will give you extensive help on achieving Professional 3-D rendering results with Imagine. Learn about object loading and creation, surface attributes, lighting techniques, texture mapping, animation, 12/24-bit rendering, and much more! 90 minutes **$25.95**

The Magic of Music and Midi DV56
NEW LOW PRICE! This new edition brings you the most up-to-date information on using the Amiga as a music generator or MIDI device. Features Super Jam!, Bars & Pipes Professional, Dr. T's Sonix, Deluxe Music, AudioMaster and others. **$14.95 While they last!**

The "How To Shoot Super Videos" series by *ADITA VIDEO*

Know Your Camcorder DV75
How to buy the camcorder and accessories that are right for you. Use your camcorder to its fullest advantage. 90 mins **$34.95**

How To Shoot Video Like a Pro DV76
Learn the fundamentals of composition. Bonus! How to transfer your slides/home movies to video. 90 mins. **$34.95**

Continuity and Combining Shots DV77
Learn how, when and why to use correct panning and zoom techniques. 7 key steps for good continuity. How to really tell a story with video. **$34.95**

Light Tech's & Recording Sound DV78
Get great lighting with least amount of equipment and overcome backlighting. How to shoot night video & other tough shots. Types of microphones for best results. How to do audio dubbing/mixing. 90 mins. **$34.95**

Basic Editing w/ Consumer Gear DV79
How to create productions using consumer equipment and how to "shoot to edit", which makes editing videos a snap! 90 min. **$34.95**

Inter. Editing w/Prosumer Gear DV80
Get better control in editing. What to buy. Editing theory. Insert and Assemble editing. Setup for best results. 90 mins. **$34.95**

Adv. Editing w/Professional Gear DV81
Techniques used by the pros. Editing tricks, split edits, post-production using Amigas, Toaster and mixers. Time base correctors, A/B roll, Time Code, Decision Lists and more as performed in Adita's studio. 90 min. **$34.95**

MONEY-SAVING BUNDLES!

Animation Volume I & II	DV82	$29.95
DPaint IV (Video Guide, Adv. Tech)	DV84	$34.95
Pro Video Gold Part One & Two	DV85	$59.95
Minds Eye, Beyond Minds Eye	DV86	$29.95
Desktop Video, Volume I and II	DV87	$32.95
Adita 7-Video Bundle	DV89	$174.95
Killer Graphics: DCTV (Logos, Solut.)	DV91	$44.95
History/Amiga, How to Anim., and Animation Volume I & II **SALE!**	DV83	$48.95
The Toaster 2.0 Essentials Bundle All 4 videos **SALE!**	DV69	$109.95

AMIGA BOOKS

Amiga C for Beginners	B101	$16.95*
Amiga BASIC Inside & Out	B102	$19.95*
Amiga Intern	B103	$25.95
ARexx Cookbook w/2 disks	B104	$41.95*
Best Amiga Tricks & Tips	B105	$22.95
Mastering Toaster Tech. 2 disks	B106	$39.95*
Understanding Imagine 2.0	B107	$25.95
Using ARexx on the Amiga	B108	$24.95*

*Companion disk(s) included

NEW BOOK RELEASE!

Mastering Toaster Technology - The step-by-step guide from experts Brent Malnack and Phil Kurz that no Video Toaster user can afford to be without! Comes with two great companion disks. B106 **$39.95**

SPECIAL OFFER!

Order any three videos and receive "How to Animate" absolutely free!

SATISFACTION GUARANTEE

If not absolutely pleased, you may return the product within 30 days of sale. Item must be in good condition.

LOW PRICE GUARANTEE

We will meet or beat any advertised price (subject to availability).

Call 1-800-879-0759

Orders Only, Please

DevWare Video

DEVWARE VIDEO, 1252 Kirkham Court, Suite 1-TU2, Poway, CA 92064
Support (619)679-2825 Fax (619)679-2887

The Mind's Eye, Beyond The Mind's Eye and Chronos are trademarks of Miramar, Inc. DeluxePaint IV is a trademark of Electronic Arts. DeluxePaint IV Video Guide and Advanced Techniques with DeluxePaint IV are trademarks of Saddleback Graphics. Amiga is a registered trademark of Commodore Business Machines. Video Toaster, ToasterPaint and Toaster CG are trademarks of NewTek, Inc. Desktop Images is a trademark of Rave Video Production Facilities.

ORDER BY TELEPHONE OR MAIL IN THIS FORM.

Enter Video Product #(s) below.

#Units	Product #	Cost

Total of videos= ___ $ ____
CA Residents add 7.75% Tax $ ____
Shipping and Handling $ ____
Total Due $ ____

☐ Payment Enclosed
Please charge my ☐ MasterCard ☐ Visa ☐ Discover
CC # ______________ Exp. ____
Signature ______________
Name ______________
Address ______________
City ______________ St. ____ Zip ____
Phone ( ) ______________

Following day shipping in most cases. Shipping and handling within continental U.S., add $3.00. Alaska, Hawaii and Canada, add 4.00. Add $.50 for each additional unit shipped. Foreign orders, $6.00 shipping for each unit, $1.00 for each additional unit. Payment in U.S. funds only.

TU2

(black-and-white, 300 dots per inch) and PaintJet (color, 180 dpi) were outstanding, far surpassing standard printing.

Big Ideas

Additionally, True Print/24 lets you print your images in poster sizes up to 99 inches by 99 inches. It automatically scales and tiles the image on as many pages as necessary, which you can then join to create your poster. If your printer supports fan-fold or roll paper, you can create seamless columns of the picture, making assembly even easier.

The installation is very simple. The thorough, properly-indexed manual even comes with a tutorial to assist you in understanding the interface.

There is only one interface screen. On it, the image is represented by a rectangle with eight sizing boxes around the perimeter. First, you load a standard IFF image, then simply scale it either with numerical entry or by dragging the mouse over one of the sizing boxes. You can keep the aspect ratio of the image or distort it. The program intelligently adjusts the pixel aspect ratio of the image to the aspect ratio of the printer, if requested, so that your circles will still look like circles when printed. The entire print area, including rulers, is shown with a rectangular grid representing the number of pages in the entire poster. As a convenience, the printing status is continuously updated.

True Print/24 provides 11 dithering patterns; four mask sizes; and control over brightness, contrast, gamma balancing, red, blue, and green balance, and color correction. The specific dither pattern and mask size that are appropriate differ with the type of image and the size of the output. With 38 combinations, however, I am sure you'll find one that works. There is even an ASCII dither that prints grayscale images in up to 32 shades on daisy-wheel printers. You can also elect to print the picture in horizontal or vertical orientation, whichever uses fewer sheets of paper.

My only criticism is that you are not shown a representation of the image. The program assumes that you selected the right IFF file. This sounds rather basic, but if you were rendering a 3-D image to a 24-bit file but did not have a 24-bit display device, you would have to convert the file in another program to see even a representation. It would be more convenient to see a thumbnail or grayscale image rather than just a rectangle.

Looks Familiar

I recommend purchasing True Print/24 only if you do not own or plan to buy Art Department Professional. The program offers the same capabilities as ADPro's PrefPrinter Saver option. True Print/24 is designed as a low-cost alternative for those who need these printing abilities alone.

—Steven Blaize



True Print/24 prints posters in sections that you can later assemble.

NakeD Up Interface

Pre'spect Technics, $49.50.

XPander Chassis

Cev Design, from $129 to $279.

A500, A1000.
External Expansion-bus connection.
Installation: Moderate.

Adds Zorro II expansion slot for using A2000 cards.

Tired of seeing your Amiga 1000 sidelined in the expansion game by its lack of slots? Take heart, CeV Design and Pre'spect Technics offer the equipment to let A1000s use the wealth of A2000 cards available. Pre'spect Technics is marketing an expansion slot called the NakeD Up interface, and CeV Design has clothed the same interface in a box and is selling it as the XPander Chassis. This board translates the information from the A2000 cards to the standard used by the A1000 or A500 bus, while taking care of bus noise to eliminate the problems of previous expansion chassis.

The XPander Chassis comes in multiple configurations of one or two slots, with and without pass-through and a power supply, and up to four drive bays. The NakeD Up is a bare board without a case, hence the name. The XPander Chassis provides a case to protect the board from dust, vibration, and young children. Enclosing the board also prevents emissions of excessive radio frequencies, which can interfere with your television. (Pre'spect Technics said it has put two NakeD Ups together without significantly disrupting a television signal, but that using three did cause interference.)

Press Here

Installation of either is simple if you're comfortable handling circuit boards. Pry off the cover from the Amiga's bus (the right side of the A1000, the left of the A500), press the board's edge connector onto the bus, and slide it as far as possible. If you're using the NakeD Up on the A1000, you will need to find something to put under the interface to support it; the bus is about two inches above the desktop. (Also, be careful not to bump and disconnect it.) The legs on the XPander Chassis keep the board at just the right height.

The A500's bus is even with the desktop, so there's no problem with supporting the NakeD Up, but be sure that no metal touches the board's exposed portions. Power is a different matter on the A500 with its notoriously weak power supply; I tried using the XPander Chassis with a friend's A500, but apparently the power supply must be connected to the card directly. I had no such problem with the A1000 because its power supply was able to keep the bus supplied.

The XPander Chassis' case is long enough to hold a full-size Amiga 2000 card upright. The size causes the device's one drawback: It obstructs the A1000's mouse and joystick ports. As a remedy, CeV Design cut two holes in the case to allow access to both ports and another hole on the bottom of the case to let the cables through. I purchased a GVP HC8 series II SCSI controller with two megabytes of RAM and a 52MB Quantum hard drive and installed it in the XPander Chassis on my A1000. The card did not seat properly because of a bracket on its end that normally fits into the rear of the A2000 to hold the card steady. I had to bend the bracket with a pair of needlenose pliers so that it rested against the bottom of the case; a slit on the floor of the XPander Chassis to insert such brackets would be a welcome improvement.

Solid Performer

I started up the Amiga and watched with amazement the speed with which the system booted from the hard disk. I've used this combination for four months and have yet to have a problem. The drive helps speed up the system one hundred percent or better compared to running software with floppies. The added flexibility of a bus pass-through makes the NakeD Up and the XPander Chassis even more useful because you can chain

at least two together and add, for example, a graphics card and a hard card, or a hard drive and a Bridgeboard (the XT and AT models work fine, but you need additional RAM to use the A2386).

Both the NakeD Up and the XPander Chassis offer capabilities A1000 owners have dreamt about since the A2000 was released. The prices are reasonable, and while the aluminum case of the XPander Chassis does not match the exterior of the Amiga, its usefulness more than makes up for its lack of aesthetic value. I heartily recommend the XPander Chassis to A500 and A1000 owners who want to expand rather than abandon their systems.

—Michael Savoie

AMIGA SMART PORT

InterACTIVE Digital Devices, Inc., $42.95

DP IBM ANALOG INTERFACES

DigiPrint, Inc., mouse or joystick, $9.95 each.

All Amiga models.
External, mouse port connection.
Installation: Easy.

Adds analog joystick and mouse compatibility.

If you are a flight-simulator enthusiast, you have probably noticed that most new programs support analog joysticks as well as the more familiar digital type. Analog joysticks use potentiometers instead of switches, allowing for smoother action and a more natural control feel.

Unfortunately, you can't simply plug analog joysticks into the Amiga and take off. Until now, you had to construct an adapter to connect the proper pins from the joystick to the correct pins on the Amiga. Because not all programs support analog joysticks, you often had to switch from one joystick to another, risking serious damage if you forgot to turn your computer off. Thankfully, two companies now offer ready-made solutions.

The DigiPrint Inc. option, the DP IBM Analog Interface, is a 12-inch cable with an Amiga connector on one end and an IBM connector on the other. Inside the IBM housing is a small circuit board with four capacitors connected to the potentiometer lines from your joystick. A three-position switch on the top of the housing allows you to vary the amount of added capacitance, giving you three different control sensitivities. The

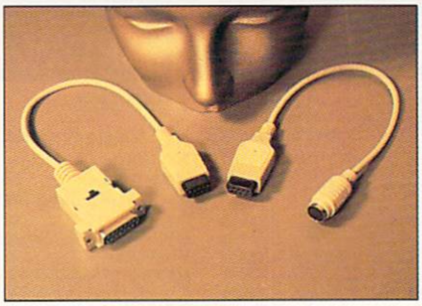
Continued on p.84.

Circle 10 on Reader Service card.

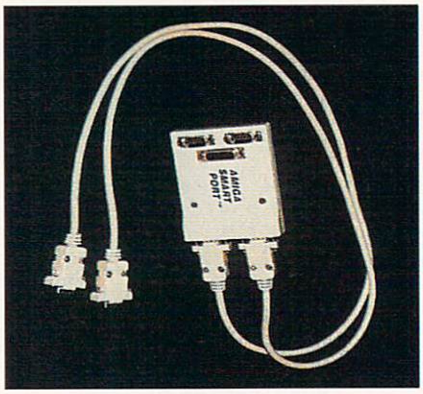
From p.81.
instruction sheet notes that the interface works with most IBM analog joysticks and warns that the Kraft Thunderstick and the Thrustmaster do not work properly. DigiPrint recommends you call to check compatibility if you're in doubt.

The company also offers the DigiPrint IBM Bus Mouse Interface. With it, you can use an IBM mouse in place of a standard Amiga mouse. All mice are not equal in the IBM nest, however. Serial mice plug into the computer's serial port, while bus mice connect to a separate interface card. Be sure to use an IBM bus mouse with the DigiPrint adapter. Both DigiPrint interfaces carry 90-day warranties.

If DigiPrint chose the Hyundai approach, InterACTIVE Digital Devices Inc. took the Cadillac route with the Amiga Smart Port. This small device attaches to your mouse and joystick ports via supplied three-foot cables. You then connect your mouse and joysticks to the Smart Port. You can attach up to two IBM-type analog joysticks (with an optional Y cable), in addition to an Amiga mouse and a digital joystick. The Smart Port senses which device you wish to use in a particular application and automatically switches itself to connect the device to your Amiga's ports. It also includes protection circuitry to prevent damage to your computer if a joystick potentiometer fails.



DigiPrint's IBM analog joystick and mouse adapters.



Smart Port widens your control options.

The well-constructed Smart Port is three inches wide, four inches long, and three-quarters of an inch thick. Two LEDs tell you at a glance which device is currently selected. Because of variations among joystick potentiometers, the Smart Port also has calibration adjustments. You use the included calibration program and a small screwdriver to adjust sensitivity to your particular joystick.

Installation and adjustment took about ten minutes, with most of that time spent fine-tuning the sensitivity. A couple of self-adhesive Velcro mounting strips, a 15-page manual, and a one-year warranty complete the basic Smart Port package. Options include various cables and a rudder-pedal adapter ($7.95).

Which is the best device? That depends on your budget and future plans. They both do the job of connecting analog input devices to your Amiga. The DigiPrint product connects only half the lines in the IBM connecter, which means there is no way to add a second analog joystick. If you get a new game that uses rudder pedals or a separate throttle control you will be out of luck. On the other hand, the difference in price goes a long way toward the purchase of a top-quality analog joystick. Personally, I prefer the convenience of being able to leave both types of joysticks attached to the Smart Port and not having to switch cables behind the computer.

—Rob Hays

BACKTALK

CANDID RESPONSES TO *AMIGAWORLD* REVIEWS

OpalVision Onward and Upward

Thank you for the favorable review (Dec. '92, p.20) of our OpalVision Main Board. We're pleased that OpalVision is receiving such positive reviews in publications around the world, but want to ensure that readers everywhere have current information about the latest OpalVision developments.

In summing up his OpalVision review, Sheldon Leemon reminded us of some of the challenges every new product faces: "With some software updates, third-party programming support, and support for all the hardware features (such as double-buffered animations and 8- and 15-bit display modes), OpalVision would become a real force in the Amiga graphics market."

Centaur Development is demonstrating its deep commitment to the improvement and enhancement of the OpalVision system. In the short time since Mr. Leemon wrote his review for *AmigaWorld*, we've delivered on everything on his wish list:

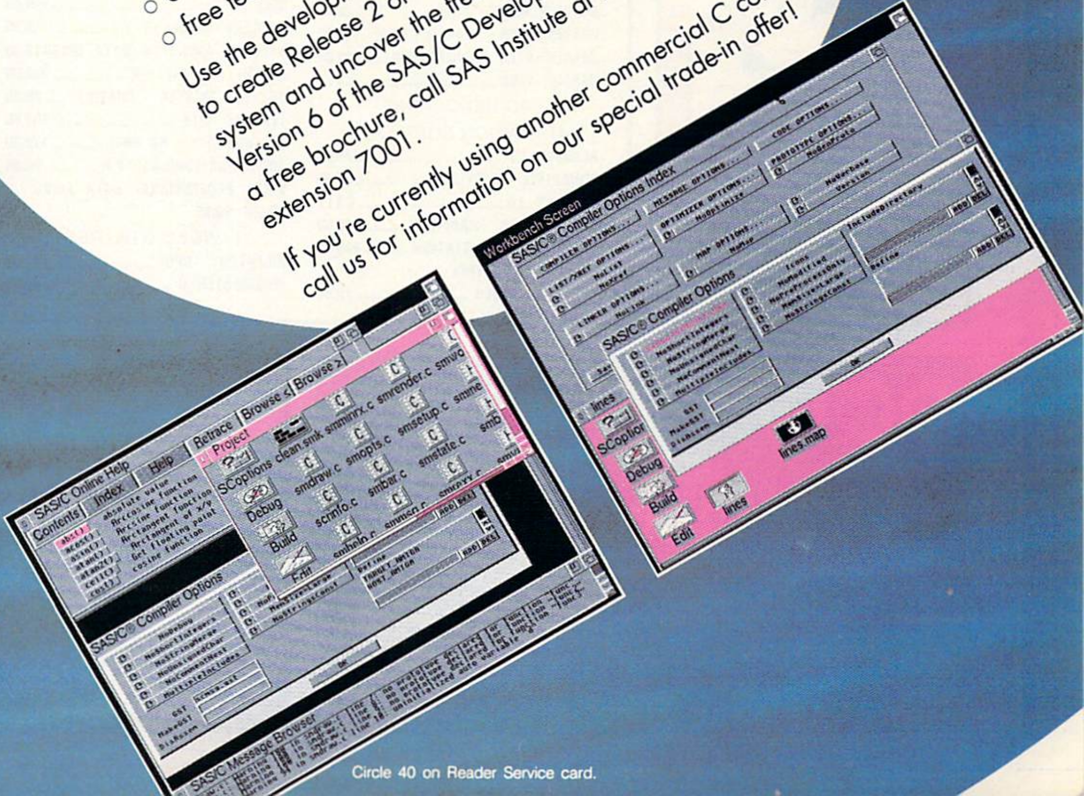
1) *Software Updates*: We've already updated the OpalVision library and added numerous features to OpalPaint (full implementation of ARexx; alpha-channel with full 32-bit brushes, images and painting; multiple color gradient saves, real-time image-processing previews; automatic tolerance range setting; brush feathering, and so on.)

2) *Third-party software support*: Amiga developers have responded overwhelmingly to OpalVision. We've already released the loader/saver for ASDG's Art Department Professional and Morph Plus. Adspec Programming rushed to put OpalVision support in their first release of Aladdin 4D. Black Belt's Imagemaster will have OpalVision support by the time you read this. Scala's MM200 and InfoChannel are past beta stage as of this writing. The list goes on and on.

3) *Support for the hardware features*: I've mentioned our implementation of the hardware's alpha channel and real-time image processing. Recently we released OpalAnimMate, an animation player allowing high-speed 8-, 12-, 15-, 18-, or 24-bit animation playback from RAM or hard drive, at speeds of up to 60 fps. It's compatible with every Amiga ray-tracing program, it works in six different modes and features selectable screen sizes. Its delta compression feature creates small files and fast playback speeds.

As you can see, we've already exceeded all of Mr. Leemon's requirements. We believe OpalVision is *the* powerful force in the Amiga graphics market and the *de facto* 24-bit standard for graphics and video professionals.

John Sievers
General Manager
Centaur Development ■



SAS/C Online Help
SAS/C Compiler Options
SAS/C Message Browser
Workbench Screen
SAS/C® Compiler Options Index
SAS/C® Compiler Options

GO AMIGO VIDEO!™

800-BE-AMIGA (800-232-6442)

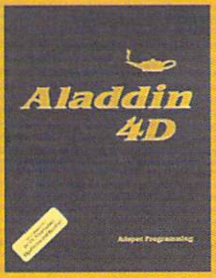
Newtek Video Toaster



Digital Video Effects, Character Generator, 3D Renderer, 24-Bit painting & more!

$2099.00

Aladdin 4D



The advanced 3D modeling, rendering, and animation system with powerful modeling tools such as extrude, sweep, resize, magnetism, clone and much more. (2Megs required)

$279.00



DPS Personal Vector Scope

The Perfect Companion for the TBC II

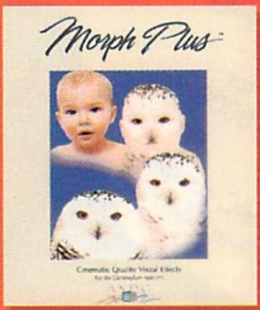
$789.00



Imagine 2.0 .... $279.00

The Amiga's best modeler gets more powerful! Dozens of new features re-establish this as the best modeler available for the Amiga computer! Includes FREE Protextures 10 disk set!

Morph Plus . $179.00



With features like 3D wave/ripple effects, completely WYSIWYG perspective and spherical warper, arbitrary rotation, and the best morphing/warping technology around, Morph Plus is the premiere morphing package on the market.

VIDEO SOLUTIONS (SOFTWARE AND HARDWARE)

IMAGE PROCESSING SOFTWARE

ART DEPARTMENT PRO. V 2.1	159.00
ART DEPARTMENT CONVERSION PAK	52.95
ASDG MORPH PLUS	179.00
DCTV	399.00
DCTV: A GUIDED TOUR	26.95
IMAGEMASTER PROFESSIONAL	149.00
IMAGEMASTER FIRECRAKER	139.00
RASTER LINK	CALL

3D RENDERING ANIMATION SOFTWARE

ALADDIN 4D	279.00
ANIMATRIX MODELER	64.95
CALIGARI 24	CALL
ESSENCE FOR IMAGINE	49.95
DIGIVIEW MEDIA STATION	169.00
IMAGINE 1.1 W/FREE TUTORIAL VIDEO	79.95
IMAGINE: A GUIDED TOUR	26.95
IMAGINE 2.0 BUNDLE	269.00
UNDERSTANDING IMAGINE 2.0	26.95
MAP MASTER - IMAGINE	45.95
MAP MASTER - LIGHTWAVE	64.95
PIXEL 3D PROFESSIONAL	169.00
PLAYMATION	279.00
PRO TEXTURES	42.95
PRO TEXTURES VOL II	42.95
PRO TEXTURES VOL III	42.95
REAL 3D V1.4	199.00
SCENERY ANIMATOR 2.0	59.95
SCENERY ANIMATOR DATA DISKS	18.95
SCULPT ANIMATE 4-D	299.00
SURFACE MASTER - IMAGINE	25.95
TEXTURE CITY	159.00
TEXTURE CITY - CD ROM	119.00
VISTA PROFESSIONAL 2.0	59.95
VISTA PROFESSIONAL DATA DISKS	FROM 29.95

VIDEO UTILITIES

DIRECTORY OPUS	36.95
DISKMASTER II	42.95

DPS Personal TBC III



- Rock solid freeze
- Variable strobe
- True Monochrome mode

$869.00

DCTV From Digital Creations



Full NTSC Color Display and Digitizer. $399.00

DCTV: A guided tour

This easy-to-follow, comprehensive VHS tutorial will tell you all you need to know about DCTV. $26.95





$999.00

Centaur Development™

Upgrade your Amiga 2000 or 3000 to 24-Bit technology.

Perfect for Video & Graphic Applications

Discrete, RGB, 16.8 Million colors

Includes the best 24-Bit paint program - OpalPaint

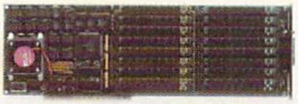
PROGRESSIVE PERIPHERALS & SOFTWARE



(33Mhz available, call)

A2000 28mhz '040 .... $1369.00

28mhz 68040! Up to 32megs RAM!

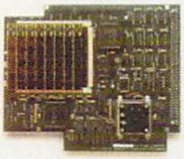


SCSI-2 DMA HD Controller expandable to 64mb of 32-Bit RAM. Includes 4mb of RAM

Zeus 040

Accelerator for the A2000

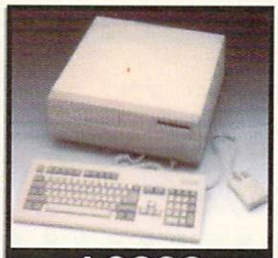
28Mhz $1849.00
33Mhz $2299.00



The *FASTEST* A3000 Accelerator

Mercury A3000 with 4 mb

28Mhz $1728.00
35Mhz $2248.00



A2000



A3000

Call for system prices

Example system configuration:

Video Workstation:

A2000 CPU w/KB and Newtek VideoToaster 2.0

$2799.00

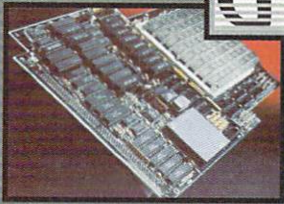
Start with a basic Toaster 2.0 machine, then add any hard drive, hard drive controller and monitor that you want. Optionally you may want to add an accelerator and/or Time Base Corrector board, or you can choose one of our pre-configured systems.

Tip of the Month

OpalPaint

To apply a paper texture to an existing image: Load the image. Clone the page in the spare page menu. Make your current page the new page. Select your paper type. Set mode to rub through. Zap the page for the entire image or use a paint tool for special effects.

GVP





G-Force 030-Combo

40/4 .... $999.00

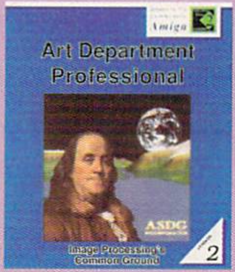
- 68030 running at 40mhz
- 68882 running at 40mhz
- 4mb of 32-Bit RAM (16mb max.)
- Onboard Series II SCSI Controller
- Hard drive mountable
- All on one board (while supplies last)

A530 TURBO

- A500 HD8 with 40mhz 68030
- 1mb of 32-Bit RAM expandable to 8mb
- Socket for 68882 Math chip
- "Mini Slot" for PC emulator & more!
- Turbo switch for compatibility.
- Includes SCSI pass thru.
- Dedicated power supply included!

A530 w/80mb drive $929.00
A530 w/120mb drive $1049.00

The Art Department Professional Ver. 2.1



Art Department Pro gives you the most powerful image processing system ever offered for the Amiga. Now with JPEG compression and 24-Bit printing

$159.00

TOASTERVISION 139.00
TOASTER TOOL KIT 1.1 .... 139.00
TREXX PROFESSIONAL 79.95

DESKTOP VIDEO

AMIGA VISION 49.00
BROADCAST TITLER II 229.00
BROADCAST TITLER II SUPER HI-RES 279.00
CANDO 2.0 .... 114.00
DELUXE PAINT 4.1 .... 119.00
THE DIRECTOR 2.0 .... 74.95
OUR WEDDING - 24 BIT 55.95
PRO VIDEO CG II 129.00
SCALA 1.1 .... 249.00
SCREEN MAKER - 24 BIT 59.95
SCREEN MAKER - HAM 44.95
SHOWMAKER 215.00

VIDEO ENHANCEMENT HARDWARE

CHROMA KEY PLUS 359.00
COLOR SPLITTER 109.00
DMI RESOLVER BOARDS .... CALL
FIRECRACKER W/ IMAGINE 2.0 .... 829.00
FLICKER FIXER 249.00
FLICKER FREE VIDEO II 239.00
VIP VIDEO INTERFACE 109.95
GVP - VIU-S .... CALL
GVP - VIU - CT .... CALL
OPALVISION 999.00

GENLOCKS

GVP G-LOCK 449.00
MINIGEN GENLOCK 189.00
ROCGEN PLUS 329.00
SUPERGEN 2000S 1350.00
SUPERGEN GENLOCK 629.00

EDITING HARDWARE

BCD 2000A (SONY/PANASONIC/JVC) 799.00
MEDIAPHILE SYSTEMS .... CALL
NUCLEUS SINGLE FRAME CONTROLLER V2.0 W/CABLE 369.00
VIDEO DIRECTOR 149.00

HOT INTEGRATED VIDEO HARDWARE

MEGACHIP W/2MB AGNUS 269.00
PERSONAL TBC III 869.00
PERSONAL VECTORSCOPE 789.00
TOUCH WINDOW AMIGA TOUCHSCREEN 329.00
VIDEO TOASTER 2.0 .... 2099.00

INTERNATIONAL TOLL FREE ORDERING POLICIES: For Canada, FPO, APO - Minimum order $50. All other countries: minimum order $100. For VISA and Master Card orders you must FAX or mail a signed photocopy of your credit card - front and back. Please have your credit card number ready before calling. INTERNATIONAL PHONE NUMBERS: Orders only please. Canada 1-800-548-2512; Italy 1678-74086; United Kingdom 0800-89-1178; France 19-0590-1099; Australia 0014-800-125-712; Switzerland 046-05-3420. OFFER CODE: G2C1MG14 Call for all other shipping information. Educational, corporate and aerospace purchase orders accepted. No surcharge for Visa/MasterCard; 4% surcharge for American Express; 1% surcharge for Discover. RETURN POLICY: Call Customer Service at (310) 214-0000 for return authorization. All returns without authorization number (RMA#) will be refused. Returned products must be in original condition and packaging and must be sent back within 30 days of our invoice date. No refunds, please. Defective product exchanges only. We make no guarantees for product performance. Exchanges with unlike products are at our option and subject to a 20% re-stocking fee. CONDITIONS: Prices and availability of product are subject to change without notice. MAIL-IN ORDERS: Send money orders or cashiers check for fastest service. Personal checks - up to 10 days to clear. Include: Name, Address and telephone number (no P.O. Boxes, please). If ordering by credit card include expiration date and billing address. Call for exact shipping rates.

Circle 13 on Reader Service card.

The Game Preserve

Shadow of the Beast III

By Peter Olafson

PSYGNOSIS HAS FINALLY mastered its Beast. **Shadow of the Beast III** ($59.99), the last of its line, finds the puzzle element of this respected arcade-adventure series in the ascendant, most of the flaws in the earlier games excised, and playability at its peak. I couldn't wish it any better.

As the designers note in the manual, Beast III is basically a marriage and a refinement of the first two games. All the gorgeous, shadowy graphics, the moody, heart-touching music, and the fast, deep parallax scrolling that caught your attention back in 1989 are here—only larger, deeper, darker, and more detailed. The Reflections design team obviously has been studying the competition, and the new game abounds in delightful small touches—be it a procession of bouncing chromed balls or an erupting volcano in the background. (And what backgrounds; these new statues reach up into the sky.)



Shadow of the Beast III: The best saved for last.

Beast II was often perceived as being impossible to complete without the "Ten Pints" cheat. Here, some of the edge has been taken off the difficulty; now it increases gradually over the game's four levels—two of which you can reach at the outset.

The levels are also more logical than ever. For instance, right at the beginning, there's a broken-down battering ram. A bit further on, over a lever-triggered bridge, you can retrieve its missing wheel, then push the ram to a locked door and let it do its thing. Pressing on into an apparent dead end, and swatting the swarm of insects that rises behind you, you drop into the alcove from whence they came and destroy an adjacent trigger. That, in turn, opens a chute down into an apparently inescapable room with switches low and high. Throw the lower, and the room begins to fill up with water. What to do? Well, there's that table in the next room to stand on, but right now you're doing a wonderful job of drowning. The game keeps you looking and thinking, and there's also room to explore and experiment.

This'll sound like damning with faint praise, but it's not an irritating game, either. Beast II's mechanics rubbed a lot of people the wrong way; perhaps most loathed was the need to watch the lengthy intro every time you died (which was frequent). Beast III has a separate introduction disk and a "suicide" key that permits escape (without rebooting) should you find yourself trapped. ►

CRIB NOTES By Peter Olafson

Last month, we featured cheats. This month, we'll add a lie: mine.

The stroll through the critical areas of Origin's Ultima VI promised for this issue has been kicked back a month to make room for a clamoring pack of back doors and service entrances that didn't make it into last month's special games edition. I've even added a handful.

• There's a level select hidden in The Blues Brothers (*Titus*, $49.95). To reach it, type HOULQ on the character-selection screen. If the black background changes to maroon, the fix is in. Hit 1 to 6 to pick a level, and then the space bar.

• BSS Jane Seymour—the European version of Konami's role-playing game Spacewrecked ($49.95)—uses the following level codes: Slumber, Interest, Bulkhead, Showroom, and Mushbash. Betcha they work on the US release, eh?

• This one isn't especially new, but I've had so much fun with this dumb old game that I thought I'd pass it on anyway. Ever wondered what's at the end of that vertically scrolling Ikari Warriors clone you've been playing on and off for five years? If that clone is Leatherneck (*MichTron*, $19.95), now you can find out. Start 'er up, type CUTHBERTNECK—what the heck is that?—and press F3. Your little troop is now safe from enemy fire, but can still very effectively shoot each other in the back, as my brother and I are wont to do when playing this one.

• Virgin's belly-busting caveman Chuck Rock has a whole rash of cheats. Weird cheats, too. On the title screen, press Esc and then type FAST AINT THE WORD, UNCLE SAMS, ITS FAIRY BOWBELZ, SHE LOVES CLEANING WINDOWS, or MY LIFE IS A DREAM for an infinite supply of energy. If you type MORTIMER during the game, you can use F1 through F5 to select stages of each level. Or type TURN FRAME or TURN FRAME LEE with the Caps Lock key depressed, and you can use 1 to 5 to skip levels. Try ESTRANO to fly.

• Pause U.S. Gold's The Godfather ($49.95) with the Help key, and type in PIZZA HUT for infinite energy.

• Now, this one isn't just a cheat; it's downright dishonest. In Wayne Gretzky Hockey (*Bethesda Softworks*, $49.95), while heading toward your opponent's goal and in possession of the puck, press ? to remove the other side's goalie from his net. (He's still in the game, however, and at a forward position, so you may have more trouble than usual holding onto the puck.)

• Typing in RISEN FROM THE DEAD during Night Breed (Ocean, $39.95) ►

To locate vendors of the games reviewed, see the "Manufacturers'/Distributors' Addresses" list on p. 108.

Circle 52 on Reader Service card.

Qualms: The beat-'em-up aspects of the original Beast have made a comeback, and the character interaction from Beast II is missing. Creatures are only for killing. The designer may have overdone it a bit with the help feature. (The game throws up "wrong way" signs if you head off in the incorrect direction—unnecessary because the game won't let you proceed in the wrong direction.) The game still won't go on hard disk. And I suspect that the easier Beast III won't have as long a shelf life as II, which some people are still slaving over two years later.

Then again, you won't be throwing this one against the wall in frustration, either; I'd bet you can actually finish it inside a month or so. Beast III is playable. It's logical. It's beautiful. What a great way to go out.

LORDS OF TIME
HEIMDALL

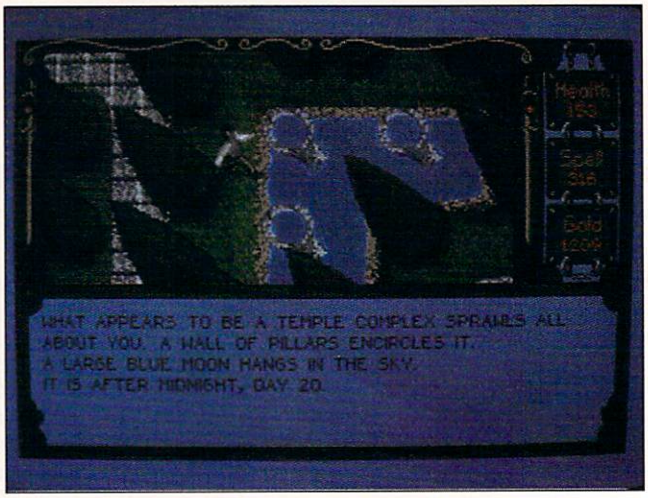
By Peter Olafson

SOME GAMES ARE so imbued with life that they just won't die. For instance, after five years, Faery Tale Adventure still sets the standard for excellence in arcade role-playing games on the Amiga. So, it's something of an event when ***Hollyware***—which published FTA in its previous life as MicroIllusions—brings out a game that recalls the earlier classic in both format and style.

Lords of Time ($49.95) may not have the presence of its illustrious predecessor, but it has even greater depth.

They do have a lot in common. Like FTA, LOT is an angled-down, single-player game with lots of magic, items, and filthy lucre scattered about a giant and varied landscape. The cutaways of the insides of buildings are handled in a similar way, and once again you're bound to find interesting things in the fireplace. And in combat, your little man (not so frail this time) stands there wagging his weapon like the tail of a dog that sees you eating lunch.

And yet, if you're expecting FTA II, you'll be disappointed at first. The dusky graphics, while nice, have neither the same



Watch where you wander in Lords of Time.

precision nor sparkle; for the longest time I thought the roads were supposed to be cliffs. The music, pleasant at first, tends to meander and a single theme plays ad infinitum. The story is nothing special—it's the old dimensional-rift trick—and you start out without an inkling of where you are.

Given time (and a judicious saved-game policy), however, it'll begin to work its charms on you. LOT uses different terrain elevations to excellent effect; mountains may be an inconvenience but not a barrier. Forests can slow you down and in places stop you in your tracks, and I found the consequent winding course through the trees far more realistic than the beelines permitted in FTA.

The half-screen, close-up view makes the world seem even larger than it is. And, naturally, it's big as the Ponderosa, with lots of make-straight-for-ya monsters that want killing (even the

Continued on p. 96.

CRIB NOTES

gives you infinite lives.

• Just stay put on Level One of Marble Madness (Electronic Arts), and see what happens.

• Here's a wild one from Damocles (Novagen, $44.95)—Paul Woakes's followup to Mercenary. On Midas, in a pyramid at 577-341, you will find a magic crystal. However, you can't use it until you get the book from the trader (13-5) in Eris' capital city. Once you do, read it, and you'll be granted a wish. Save your game, and then try out the following:

1) I wish I had more time.

2) I wish I could receive 1,000,000 credits.

3) I wish I had a cheese sandwich.

4) I wish the universe was more colourful. (Note the British spelling.)

5) I wish I know how to use author's computer.

6) I wish I had Mercenary 3 now.

• MEACULTA should give you infinite energy in Darkman (Ocean, $19.95) if typed in during play.

• Here's a slick trick from MicroProse's Formula One Grand Prix that should find a happy home in its US equivalent, World Circuit ($59.95). On a last lap of a race, hit the pits, put on the brakes, and press Esc to quit the race and then accelerate the passage of time. You should win the race if you were close to the lead when you dropped out.

• You could play Lemmings (Psygnosis, $49.99) to the end without finding this code word. Type FQUIGGLY on the title screen to stop the li'l guys from doing themselves in.

• Typing SORCERY sometime before the password screen—it doesn't say where—in Konami's Gods ($39.95) allegedly supplies you with infinite energy. Another cheat—a rather involved one—is found on Level 2. Get a shield, a magic potion, three fireballs, and three stars here, with the rest of your dosh going to food and health. Collect the gems, get a key, and start toward the exit. Before going down the final ladder, be certain you don't have enough energy left to survive contact with the bandits who will appear at the bottom, drop your potion, descend, open the door, and wait. When they touch you, push up on the joystick. According to the cheat, you may die here, but the bonus goes absolutely bonkers and the game restarts on World Two with 28 extra men and millions of points.

• The key combo Left-ALT-CTRL-Shift-F5 warps you to the next level in Hare Raising Havoc (Walt Disney Computer Software, $49.95).

• It's reported that something "interesting" occurs in Electronic Arts' Keef the Thief ($19.95) if you go up into the treehouses to the left side of the map, wait for a commercial-like screen to appear, and then make a spell from Rhino Horn, Black Pearl, and Narcissus Root.

• Try 1 KILLING as your mission code in Konami's The Killing Cloud ($49.95). This is supposed to give you 28 nets and 29 PUPS.

• Evidently, holding down Shift and 4 (the $ key) while on the main continent screen provides you with loads of money in Railroad Tycoon (MicroProse, $59.95).

• There are reportedly a couple of ways to kick your army into high-speed inventing in PowerMonger (Electronic Arts, $49.95). Tell your captain to invent, pause the game, push the game speed to full, wait a while, and resume the game. It seems the army keeps inventing during the pause. Another way is to dispatch an "invent" order and then, when your troops take off to implement it, click on the icon again. This may well generate a catapult immediately, but use it with care. It's available only once per island.

Well, I see the little clock on my Amiga says it's July 7, 2007, so I guess I'm either out of time or batteries. Next issue: A cure for the Ultima Sicks.

MANTA WILL NOT BE UNDERSOLD! CALL OUR PRICE DIRECT HOTLINE TO PUT YOU IN DIRECT CONTACT WITH A SALES MANAGER AUTHORIZED TO BEAT ANY PRICE. * 908-542-1491

MANTA
COMPUTERS & SOFTWARE

Order Toll Free - 1-800-477-7706

For Customer Service Please Call (908) 542-8767
Call for current price quotes & latest releases!
Many more items in stock at the lowest prices!



Commodore
AMIGA
AMIGA 600

A low profile design including 1 MB Chip Ram, DOS 2.05, TV adapter and Hard disk controller. Options include a 40MB hard drive and 2 ø - 4MB PCMCIA RAM expansions.

Amiga 600
Amiga 600HD
LOWEST PRICE

WE CARRY ALL AMIGAS!
A4000 • A2000 • A3000

GVP
GREAT VALLEY PRODUCTS

LOWEST PRICES

Accelerators
G Force Combo 25/1 ....CALL
G Force Combo 40/4 ....CALL
G Force Combo 50/4 ....CALL
G Force 2000 040/33 ....CALL
120MB, 240MB packages available
1 MB Simm ....CALL
4 MB Simm ....CALL

Miscellaneous
Digital Sound Studio 83
Impact Vision 24 ....CALL
GVP Phone Pak ....CALL
G-Lock ....CALL
PC-286 ....CALL

Hard Drives
A2000 HC8 + 0/120Q.....CALL
A500 HD + 120 MB.........CALL
A2000 HC8 + 0/240Q.....CALL
A530 Turbo/120MB........CALL

DKB

MegAChip 2000/500 • $149.95
Two megabytes of Chip Ram. Doubles your graphic memory for desktop video, publishing, 3D rendering and multimedia. Compatible with Video Toaster!
Call for 2MB Agnus Price

MultiStart II • $39.95
Install 2.0 and 1.3 ROMS in your Amiga 500 or 2000. Switch between 2.0 and 1.3 ROMS with the keyboard.
Call for 2.0 operating system

Insider II A1000 • øK $149.95
Battery backed clock and calender with up to 1.5 mg RAM.
Call for RAM prices

Kwikstart II • $69
Puts Kickstart 2.0 and 1.3 in your Amiga 1000 Boots faster and auto boots most hard drives.

2632/4MB 32 Bit Expansion • $399.99
112 Megabyte memory expansion for the Amiga 2500/030 and CBM A2630 accelerator.

VECTOR
THIRD GENERATION 68030 PROCESSOR ACCELERATOR
BY INTERACTIVE VIDEO SYSTEMS

68030/68882 Accelerator/RAM/Harddisk controller for A2000. Expands to 32 MB using industry standard 1 or 4 MB SIMMS. Allows access to RAM & hard drive in 68000 mode.

In Stock Call

ENTERTAINMENT SOFTWARE AVAILABLE EUROPEAN IMPORTS & MAGAZINES

INTERNATIONAL ORDERS WELCOME

CALL FOR COMPLETE SOFTWARE & HARDWARE LISTING

GOLDEN IMAGE™

SPECIAL MASTER 3AI FLOPPY $74.99

AMIGA RC-500 512K RAM with clock for A500 ....$36
HAND SCANNER with touchup, high resolution ...$159.95
OPTICAL MOUSE $49
OPTO MECHANICAL MOUSE $22
RC-2000 8 MB Ram Board for A2000 with 2MB $135
1 Year warranty on all Golden Image products.

ICD

SPECIAL
Adspeed $169.95
Flicker Free Video 2 ..$235.00
Call For Other Prices

THE ICD ADVANTAGE
AdSCSI 2000
Hard drive interface with unmatched speed and flexibility.

AdSpeed
Best overall performance of any accelerator in its price range.

Flicker Free Video 2
Eliminates interlace flicker for any Amiga computer.

AdRAM 540
Add up to 4 MB of RAM internally in your Amiga 500

AdRAM 2080
8 MB internally in your 2000/2500.

NEW FROM ICD
AdIDE
Smallest Amiga hard drive interface made. For IDE (AT) drives.
IDE 44 for your 2.5 inch hard drive.
IDE 40 for your 3.5 inch hard drive.

Novia 60i
Now you can have the Novia with a 60 MB 2.5 inch hard drive.

Trifecta Interface
Superfast SCSI controller.

Productivity/Utilities
AmiBack 2.0 ....47.95
Arexx 27.95
Arexx Cookbook....34.95
Can Do 2.0..........115.00
Cross DOS 9..........34.95
Directory Opus 34.95
Diskmaster II 37.00
Final Copy II..........89.00
Hotlinks 85.00
Hotlinks Upgrade....45.00
Image Master.......119.95
MR. Backup Pro 39.95
Quarterback 5.0 ....39.95
Quarterback Tools.44.95
Pagestream 2.2 ...159.95
Pelican Press 54.95
Pro Page 3.0........169.95
Pro Write 3.3 ....54.95
Proper Grammar....59.95
SAS/C v.6.0.........234.95
SuperBase IV.......159.95
True Print 54.95
W Shell 2.0 ....47.95

Miscellaneous
Amax II+ 349.95
Amtrack Trackball .59.00
Appetizer Disk.......12.00
Atalk II 39.95
Distant Suns 4.1 ....54.95
Emplant.................Call
Keyboard Skin 16.95
Mac ROMS ....Call
Voyager.................69.95

Audio & MIDI
AD 516..................Call
AD 1012 ....Low
Asound Elite..........64.95
Audiomaster IV......59.95
Audition 4 ....54.95
Bags & Pipes Pro .184.95
ECE MIDI...............47.95
Patch Meister.........64.95
Soundmaster.......124.95
Super Jam.............79.95
Sync Pro..............174.95
Triple Play MIDI ...159.95

Graphics & Video
Aladdin 4D 239.95
Art Dept 2.1 ....149.95
Broadcast Titler II ..214.95
Caligari 24 ....Call
Color Splitter 104.95
Cinnemorph 99.95
Deluxe Paint IV 89.95
Director 2...............67.95
Disney Animator 47.95
Image 2.0 ....209.95
Morph Plus 139.95
Pixel 3D Pro 124.95
Playmation 269.95
Pro Converstion Pak .52.95
Profills Vol. 1 ....29.95
Profills Vol. 2 ....29.95
Real 3D Pro 254.95

SCALA
Home Video 84.95
Mulitmedia 259.95
Video Studio 169.95
Scenery Animator ...54.95
Textiles 29.95
Video Director 124.95
Virtual Reality Studio .54.95
Vista Pro 2.0 ....57.95

Hardware
Supra Corp
Supra Ram 500 RX
1 MB 119.00
2 MB 179.00

Modems
2400 BD External/Cable..75.00
2400 PLUS/Cable.119.00
Fax Modem V32 bis ..Call

Misc Hardware
Big Foot Pwr 89.00
Bread Board...........Call
Commodore A570 .Call
DCTV 379.00
DCTV RGB Converter ..Call
Desk Jet 500C ....Call
Epson 300C Scanner..Lowest
Firecracker 24/2 MG..Call
Golden Gate 386FX 25MHZ ....Call
Kitchen Sync......1499.00
Maxtor 7123 SCSI 213.469.00
Personal SFC 349.00
Progressive 040/2000 ..Call
Progressive 040/500...Call
Quantum 127, 240, 340 .Call
Seagate ST2383N SCSI 245...........549.00
VXL 30/25MHZ 299.95
VXL 30/40 MHZ ...459.95
VXL Math Co ....Call
VXL RAM Board .....Call
Zeus 040/2000/SCSI..Call

Monitors
Commodore 1084S....Call
Commodore 1960 .....Call
NEC 3FGX................Call

Memory/Chips
1x4 Simms ....Call
256x4 8 Dram ....Call
DOS 2.0....................Call
Super Denise ....Call
1 MG x 1 80 NS..........Call
GVP Simm 32 ....Call
3000 1x4 SCRAM ZIPS .Call
1x8 Simms ....Call
CIA's ....Call

Syquest
44 MB Internal 295
88 MB Internal 399
Cartridges Available ...Call

IVS
Grandslam A500........299
Grandslam A2000......229
Trumpcard Pro A500..225
Trumpcard Pro A2000 145
Trumpcard A500........125
Trumpcard A2000........85
Trumpcard 500 AT ...CALL
Hard Drive Packages Available ....CALL

Genlocks
Mini Gen....................185
Supergen...................599
Alter Image ....CALL
Supergen 2000S 1299

WordPerfect® for the Amiga
LIMITED QUANTITIES $59.95
Full Featured Word Processor
115,000 word spell checker, footnotes, mailmerge & more!

VIDEO TOASTER
AmiLink CI/AB Roll ....Call
Kitchen Sync 1499
MapMaster for Lightwave ...47
Pixel 3D Pro 139
Toast Master 79
Toaster 2.0 Upgrade........289
Toaster Cozzy.................699
Toaster Toolkit 119
Video Toaster 2.0 ....Call
Wipe Master 115

COMPLETE TOASTER WORKSTATION AVAILABLE
Full Warranty • Lowest Prices
CALL FOR DETAILS

DPS
230 ....Call
RC-2000.............................239
TBCIII 779
Personal V-Scope............Call
Personal VDA...................Call

SPECIALS
Art Dept 2.1 ....149.95
Cross DOS 5 ....34.95
DCTV 359
Deluxe Paint 4.1 ....94.99
Disney Animator...........47.95
Firecracker/Imagine 2.0 ..799
Pagestream 2.2 ....159.95
Patch Meister 55
Superbase IV 169.95

In NJ Call: (908) 542-1251
FAX: (908) 542-3654

ORDER TOLL FREE 1-800-477-7706

115 Route 35
Eatontown, NJ 07724

CUSTOMER SERVICE & TECH SUPPORT CALL • 1-908-542-8767

Walk in Traffic Welcome

• Terms VISA/MASTERCARD, Discover, certified checks and money orders welcome. School & Corporate Purchase accepted. Most items shipped 1-2 Business days. • Returns: all items returned must have RMA # before returning. Defective products exchanged for same item only. Hardware items will be replaced or repaired. All returned items subject to a restocking fee. Shipping non-refundable. Call for complete details. • Ad prices subject to change without notice. Prices may differ in retail location - Software Concepts, Eatontown. Not responsible for typographical errors. Customer Service and product information call (908) 542-8767.

* 'Beat any price' guaranty may not apply to certain items.

AUTHORIZED *AMIGA* SALES & SERVICE CENTER

LIST OF ADVERTISERS

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.
* This advertiser prefers to be contacted directly.

NOTICE TO ADVERTISERS

All advertising is subject to the approval of the Publisher and *AmigaWorld* reserves the right to refuse advertising without notice.

The advertising herein that has been typeset and/or designed by *AmigaWorld* is the property of *AmigaWorld*, and not that of the advertiser. The advertiser has purchased the right of reproduction in *AmigaWorld* only, and does not have the right to reproduce the ad in any other publication without the expressed written consent of *AmigaWorld*.

Advertisers and/or their agencies assume the responsibility for the condition of the contents of the advertising printed herein and agree to indemnify the Publisher of *AmigaWorld* for any claims and/or expenses incurred therefrom.

AmigaWorld advises advertisers that statements regarding shipping and handling charges, warranties and/or money-back guarantees should be included within all forms of advertising in *AmigaWorld*.

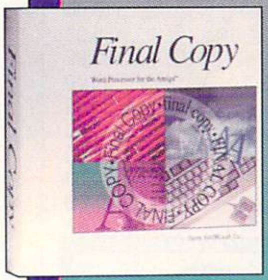
The opinions expressed in the articles and advertising appearing herein are those of the authors and/or advertisers and are not necessarily those of *AmigaWorld*.

Advertising Inquiries should be directed to Advertising Offices, *AmigaWorld*, 80 Elm St., Peterborough, NH 03458; telephone: 800-441-4403. **Subscription problems or address changes:** Write to *AmigaWorld*, Subscription Dept., PO Box 595, Mt. Morris, IL 61034-7901. **Problems with advertisers:** Send a description of the problem and your current address to: *AmigaWorld*, 80 Elm St., Peterborough, NH 03458, ATTN.: Mary McCole, Customer Service Liaison.

Circle 168 on Reader Service card.

ONLY THE BEST!

Final Copy



Final Copy produces the highest quality output of any Amiga word processor. It comes with 13 outline fonts and creates documents that can be printed on any 1.3 or 2.0 Workbench supported graphic printer or PostScript® printer.

Includes a 114,000 word speller, 470,000 synonym thesaurus with definitions, automatic text flow around graphics, automatic hyphenation, ARexx port, headers, footers, and multiple columns. Say goodbye to jagged edged output forever.

$39.95

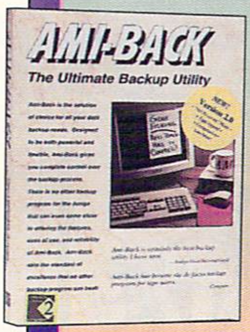
Final Copy II

Final Copy II contains everything in the original Final Copy plus: structured drawing tools, style sheets, master pages, color text, 1.4 million response thesaurus, 144,000 word speller, math, paragraph sorting, mail-merge, left-right pages, text obliquing, new user-interface, improved memory management, many new ARexx commands, vertical ruler option, new page guides, and more. Use the structured drawing tools to create boxes, ovals, lines, arrows, circles, and squares in your document.



$89.95

Ami-Back



Ami-Back from Moonlighter Software Development, Inc., is the best solution for all your backup needs. Both powerful and flexible, *Ami-Back* gives you complete control over the backup process. No other backup program comes close to the speed, ease of use, and reliability of *Ami-Back*. Compression, data recovery, backup scheduler, true SCSI tape support, and online help are just a few of the features that make *Ami-Back* the best solution — bar none!

$29.95

Proper Grammar II

Use Proper Grammar to detect and correct 95% of your writing errors. The best companion to your favorite word processor, Proper Grammmar can read, correct, and save documents created in FinalCopy, PenPal, ProWrite™, QuickWrite™, Excellence!™, Scribble!™, KindWords™, TransWrite™, and TextCraft Plus™. Don't be embarassed by bad writing or silly mistakes again, Detect and correct grammar errors in all of your writing.

Hard disk required.



$54.95

- $5.00 2nd day shipping to most cities in continental U.S.
- 30 day exchange - no questions asked

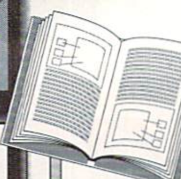
SmartSoft
800-824-6785

VISA MasterCard

- Order hours M-F 10-6:30 EST 7-3:30 PST
- Same day shipping on orders received by 5:00 EST or 2:00 PST

SmartSoft, Inc., P.O. Box 50178 • Phoenix, Arizona 85076

Circle 81 on Reader Service card.



TO ORDER CALL 800-544-6599

MON.-FRI. 9-6, SAT. 9-3 CST

INFORMATION/TECH SUPPORT/RETURNS 414-548-8125

MasterCard | VISA | CODs WELCOME

EDUCATION-ENTERTAINMENT

Software

A-Train	43.99
Air Support	31.99
Amy's Fun 2-3 Adventure	31.99
Animal Kingdom	25.99
Ashes of Empire	51.00
Battle Isle Scenario #1	24.00
Bible Scholar	89.00
Campaign	36.99
Creepers	25.00
Cyber Empires	37.99
Diplomacy	23.99
Fighter Duel Pro	36.99
Fun School: Paint	31.99
Fun School: Spelling	31.99
Goblins	38.99
Heimdahl	21.00
Lemmings II	37.99
Lords of Time	31.99
Mark's Math Lab	31.99
No Greater Glory	43.99
Pinball Fantasy	32.99
Pro Football Simulation	32.99
RoboCop 3	37.99
Super Tetris	39.99
Tracon II	36.99
Utopia	32.99
Voyager	73.99
WordMaster	25.99
Zool	38.99

FLORIDA

Receive

ROUND TRIP AIRLINE TICKETS

for 2 to your choice of Daytona or Orlando, FL with any purchase totaling $500.00 or more.

Some restrictions apply; call for details. **414-548-8120**

Limited-time offer; one per customer.



PRODUCTIVITY-UTILITIES

Software

600 Amiga Fonts	20.99
A-Talk III	42.99
Agfa Fonts	26.00
Aladdin 4D	309.00
AmiBack Tools	48.99
AMOS U.S.	65.99
AMOS Compiler	34.99
AMOS 3D	42.99
AMOS Professional	86.99
Animatrix Modeler	85.00
Art Department Pro	148.00
B.A.D.	31.99

Maxtor SCSI Drive w/ 1-year warranty

7060S 60MB LPS	240.00
7120S 120MB	325.00
7213S 213MB	469.00
535S LXT 535MB	1049.00
540SL MXT 540MB	1249.00
8760S MX 760MB	1139.00
PO-12S 1.2 GIG	1549.00
P1-17S 1.7 GIG	1829.00
Case/Cable for 1.2/1.7	159.00

Maxtor

Commodore **CDTV** ™ INTERACTIVE MULTIMEDIA

CDTV Unit	569.00
CD Caddy 2-Pack	15.99
CDTV Prof Bundle	185.00
CDTV Genlock	155.00
CDTV Keyboard Adaptor	49.99
CDTV Trackball	95.00
Connoiseur: Fine Art	29.99
Guy Spy	32.99
Karaoke Unit	**155.00**
Music Maker	37.99
Sherlock Holmes: Consulting	43.99

BOOKS & MAGAZINES

Amiga Intern	33.99
AmigaDOS Manual 3rd Ed.	22.00
Amiga Made Easy	26.99
AMOS Gamemakers' Man.	27.99
ARexx Cookbook w/ Disks	37.99
DOS Inside & Out 2.0	22.95
Includes & Autodocs	35.95
Multi-Media W/ Amiga	18.99
ROM Kernal: Devices	25.99
ROM Kernal: Libraries	29.99
Using ARexx on the Amiga	27.99

We carry ALL Euro magazines!

Bars & Pipes Pro	208.00
Blitz BASIC 2	99.00
C Net 2.4	75.00
Caligari24	229.99
Can Do 2.0	120.00

Commodore® AMIGA® PERIPHERALS

A10 Speakers	38.00
A520 RF Modulator	35.00
A570 CD ROM Drive	399.00
A1011 Ext Floppy	116.00
A2010 Int Floppy 2000	95.00
A2091 SCSI Controller	155.00
A2232 Multi-Serial Board	295.00
A2300 Int Genlock, 2000	135.00
A2320 Display Enhancer	225.00
A2386 SX BridgeBoard	725.00
A3010 Int Floppy 3000	95.00
A3070 Tape Drive	525.00
Mouse, 2-Button	45.00
Mouse, 3-Button	53.00

NOW AVAILABLE! COMMODORE AMIGA 600 AND 600 HD!

Call for pricing!

Cycle Man	36.99
Deluxe Paint IV	109.00
Directory Opus	36.99
Essence/Imagine	47.99
Final Copy II	85.00



The ultimate 2D/3D plotting tool for artists, engineers, teachers and scientists **$115.00**

Fractal Pro 5.0	87.99
High Speed Pascal	114.99
HotLinks	62.99
InterChange Plus	59.99
LabelDex!	46.00
Lattice 6.0	255.00
Macro 68	130.00
Morphis/Imagine	72.99
Morph Plus	169.00
Mini Office	75.00
Notebook	27.99
Objects Disk/Imagine	42.99
Origin	79.00
PageStream 2.2	169.00
Pixel 3D Pro	149.00

TOP 10

1 Supra FAX Modem 14.4	299.00
2 ZyXel 14.4 Modem	379.00
3 SupraFAXModem 14.4/Ami	345.00
4 Cross DOS 5.0+	37.00
5 Amiga DOS 2.04	79.00
6 Civilization	39.99
7 RocTec Controller	190.00
8 ASIM CD Rom FS	50.99
9 Lattice C 6.0	255.00
10 Shadow Beast III	37.99

PlayMation	299.00
Power Basic	58.99
Power Packer Pro	22.99
Pro Draw 3.0	130.00
Professional Calc	168.99
Profills 2.0 #2	33.99
ProWrite 3.3	55.00
PSImport	54.00
QuarterBack 5.0	45.00
QuarterBack Tools	53.00
Resource	130.00
Rexx Plus Compiler	125.00

Eureka®

512K Memory 500	36.00
MIDI	40.00
Mouse, Swifty	29.00
Mouse/Joystick Port	29.99
Scanner	149.00
Sound Enhancer	46.99
Sound Sampler	63.99

Pyramid®

Scala MultiMedia 200	305.00
Scala Video Studio	169.00
SuperBase Prof 4	185.00
Toaster Toolkit 1.1	130.00
Toaster Vision	130.00
ToastMaster	89.99
True Print/24	56.00

VIDEO TOASTER 2.0

$2025.00

NEWTEK INCORPORATED

Authorized Panasonic Broadcast & TV Systems

Authorized RGB AmiLink Systems

Virtual Reality Studio...........53.99
Vista Pro 2.0........................59.99
WShell 2.0............................52.00
WipeMaster.........................120.00

HARDWARE

Hardware

AD 1012 .... 495.00
AD 516 ....1249.00
AdFlicker Free Video 2...... 239.00
AdSpeed..............................179.00
Black Burst Generator 175.00
Blizzard Board 219.00
CD Rom Drive, Ext Chinon 535.00
CD Rom Drive, Int Chinon .425.00
Controller 2000 8/0 ....169.00
DCTV 389.00
DCTV RGB Converter.........225.00
Fast RAM IC Card w/ 2MB.210.00
Fast RAM IC Card w/ 4MB.339.00
Floptical Drive, Int 389.00
Floptical Drive, Ext.............570.00
Floptical Drive, 3000..........399.00
Floptical Media 25.00
Genlock, G-Lock.................410.00
Harddrive, 42Q ELS.......... 215.00
Harddrive, 85Q ELS.......... 299.00
Harddrive, 127Q ELS.........385.00
Harddrive, 170Q ELS.........445.00
Harddrive,Impact 500/120...645.00
Harddrive, Impact 500/213..899.00
Harddrive, Impact 530T/120 1059.00

Increase the chip memory of your A600 to 2 megs!

A601 0k.......................24.00
A601C w/clock 0k........39.00

DATAFLYER

Express



In your choice of SCSI, IDE, or SCSI/IDE Combo. Uses any LPS drive. Great looking chassis!

IDE 165
SCSI................................175
Combo 199

EXPANSION SYSTEMS

I/O Extender 215.00
Joystick Adaptor, Analog.....14.99
Joystick, SpeedKing Analog 23.00
Keyboard Overlay/DCTV 12.00
Keyboard Overlay/Toaster ...24.00

ELECTRONIC ARTS®

Winter Releases!

Deluxe Paint IV (AGA) 119.00
Harpoon Signature Ed. 56.99
MegaFortress 37.99
MegaFortress Mission 2. 27.99
Populous II Challenge Disk 23.99
Prophecy of the Shadow ..39.99
Road Rash 34.99

Supra

MODEMS



$245.00

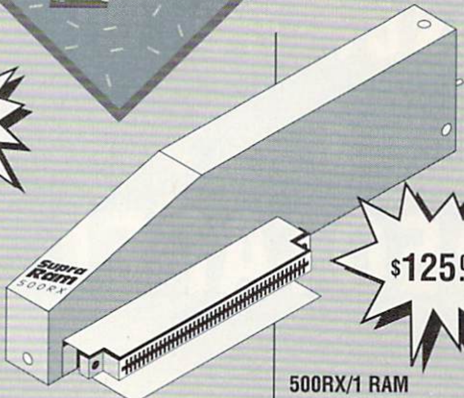
SupraFaxModem V.32
SupraFAXModemV.32/V.42/V.42bis - Up to 9600 bps send and receive FAX or data

GP Fax Software...................75.00
SupraFAXModem 14.4 Bare 299.00
SupraFAXModem 14.4 w/sw.345.00
SupraFAXModem 9600 Bare245.00
SupraFAXModem 2400+....135.00
SupraFAXModem 2400+ w/sw......................165.00
SupraModem 2400 Bare 79.00
SupraModem 2400zi+ w/sw 120.00

HARD DRIVES

For the A500

SupraDrive 500XP 52Q/1 ...480.00
SupraDrive 500XP 5Q2/2 ...565.00
SupraDrive 500XP 120Q/2 .675.00
SupraDrive 500XP 240Q/2 .935.00
(Shipping is only $7.00 on these systems!)



$125.00

500RX/1 RAM EXPANSION

MEMORY

512K RAM Expansion 39.00
500 RX/1 ....125.00
500 RX/2 ....185.00
500 RX/8 ....419.00
SupraRAM 2000 0K 119.00
SupraRAM 2000/2 ....169.00
SupraRAM 2000/4 ....225.00
SupraRAM 2000/6 ....285.00
SupraRAM 2000/8 ....349.00

Supra Corporation

OTHER GREAT SUPRA PRODUCTS

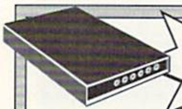
Floppy Drive.........................95.00
Power PC Board 269.00
Power Supply, 500XP 55.00
SCSI Controller, 500XP 199.00
SCSI Controller, 2000.........110.00
SCSI Controller, 1000 ....179.00
Series III Upgrade 39.00

Kitchen Sync 1599.00
MIDI, ECE 500/2000........... 52.00
MIDI Connector 36.99
MegaChip 2000 w/ Agnus .269.00
Mouse Game Pad 25.00
OpalVision 999.00
Personal SFC 375.00
Personal V Scope 789.00
Personal VDA 125.00
Phone Pak 409.00
Power Supply 2000 ....159.00
Power Supply, Big Foot...... 99.00
Scanner, MiGraph............ 259.00
Syquest Int 44/88MB.......399/499
Syquest Ext 44/88MB..... 549/649

ROCTEC

Floppy Drive, Int 500..78.00
RocLite Ext Floppy Beige or Black.........89.00
RocGen Plus...........289.00
RocKey 319.00
RocGen Plus with RocKey 539.00
RocHard IDE/SCSI 190.00
RocHard 80/500 ....449.00
RocHard 120/500..........489.00
RocTec Mouse..................25.00
RocKnight Anti-Virus 30.00
RocMate 95.00

TBC III 819.00
Toaster Cozzy 699.00
TouchDown Tape Drive 655.00
Trackball, AMTrac.............. 69.99



$379.00

INTRODUCING ZyXEL MODEMs:

14.4 FAX Modem w/ V.32bis/V.42bis + FAX
Password protection
Built-in caller ID
Switcher for modem or FAX use

GVP GREAT VALLEY PRODUCTS

68030 Accelerators
25MHz/25/1MB 609.00
40MHz/40/4MB....... 999.00
40MHz/40/4MB/120 1349.00
40MHz/40/213 ....1639.00
50MHz/50/4MB......1469.00
50MHz/50/4MB/120 1849.00
50MHz/50/4MB/213 2139.00
68040 Accelerators
33MHz/33/4MB......2089.00
33MHz/33/4MB/120 .2499.00
Memory Upgrade 4MB .209.00

HAPPY HOLIDAYS

Happy holidays and best wishes to you, from all of us at Safe Harbor! Dale, Scott H., Tim,George, Laurie, Jeff Mary, Pat, Scott T., and Dennis

SAFE HARBOR COMPUTERS

2120 E.MORELAND BLVD. SUITE L, WAUKESHA, WI 53186

Circle 44 on Reader Service card.

From p. 90.

birds bomb you with rocks) and lots of buildings and dark and curious places to visit. Unlike FTA, there's also a good deal of character interaction—albeit of a rather prescribed variety—and with experience and good spell-ing you'll begin to discover this isn't as foreign and dangerous a place as you suspected. (Little things like the map window that surfaces when you cast a particular spell go a long way.) There's the world you're in, and then there's a second world that's gradually revealed.

And although LOT comes on only two disks, it goes on hard disk. It does take some getting into and I can't claim that designer-looking-over-your-shoulder feeling from FTA, but this is an admirable followup. You'll love it.

Heimdall (***Virgin***, $39.99) doesn't project itself beyond the screen, either. It's just an incredible amount of well-done fun.

For starters, this Norse saga has the most delightful character-creation scheme around. You can determine your stats by your skill in three arcade segments: hurling axes at a girl's radiating pigtails, catching a wild boar, and battling shipboard baddies. It's enormous—both in scope (three extensive island chains) and in the sheer size of the huge, full-screen isometric graphics. The game seems to loom up to you from the monitor; it occupies your field of vision in a whole new way.

Combat is handled much as in the original Elvira, with the timing of your weapon swipes the key. The mechanics of movement and item management in your six-member party are blissfully simple. Traps and puzzles abound—most of the latter just a matter of knowing which item to use where—and it's a joy to play...in most respects.

The only setbacks are the clown-like character graphics, the absence of a practice mode for the attribute-setting arcade bits, and the lack of a hard-disk installation option. If this game had presence, we'd never know; even on a two-drive system, there's simply too much swapping among the five disks for Heimdall to achieve an even flow.

Even so, I recommend it: The game has too much fun in it to be suppressed by a technical mistake. On the strength of games like Heimdall and LOT, it may just be time to adjust that arcade-RPG standard up a notch.

Air Support

By Jeff James

A SIMULATION OF 21st Century warfare, **Air Support** from ***Psygnosis*** ($59.95) is one of the most difficult Amiga games ever. A challenging mix of strategy and simulation elements, Air Support thrusts you into the role of a military commander with a plethora of hi-tech military hardware at your disposal.

After witnessing the impressive introduction, you register yourself as a training cadet and select the difficulty level. Then you're off to the first of 20 training missions, where you get a chance to familiarize yourself with the controls and capabilities of the five main vehicle types in Air Support. In addition to your command ship, you pilot a jet fighter, tank, missile-launcher, and reconnaissance vehicle. At first, you'll learn to control one unit at a time. As your training progresses, you get the opportunity to simultaneously control up to 16 vehicles. Joystick jockeys can jump into any of those craft and immediately begin blasting everything that moves; strategy aficionados can direct the action from an overhead map view, putting all of the individual units on autopilot. In addition, Air Support requires that players learn to manage a growing defense com-

Continued on p. 99.

We will spend the time you need to make an informed decision

160 BROADWAY
NEW YORK, N.Y. 10038
BETWEEN LIBERTY ST & MAIDEN LANE
OPEN 9-6, FRI 9-2:30, SUN 10-4
'15 Yrs. of Service to the Computing Community'

TRI STATE COMPUTER

ESTABLISHED 1977 • SE HABLA ESPANOL

ORDERS: USA & CANADA
(800) 537-4441
INFO: (212) 608-1391 / 349-2555
Fax Us Your Order or Inquiry
(212) 962-4635

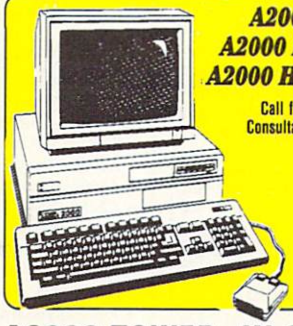
"Your Video Toaster—Commodore® AMIGA® Headquarters"

AUTHORIZED FULL SERVICE Commodore® DEALER

FIRECRACKER 24
2 Meg, 24 Bit Graphics
Hi Res, Works on 2500
Free Imagine 2.0 **LOWEST**

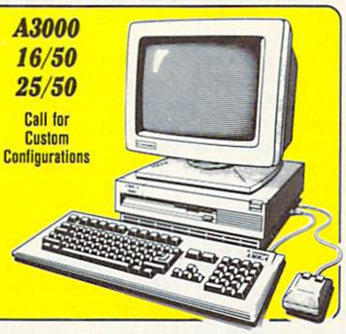
DCTV-NTSC
Digitizer & Display Device
Frame Buffer w/ 24 Bit Paint
Millions of Colors **$369.95**

EDITIZER
True A/B Roll • Multi Format Editor
Toaster Control • DPS TBC Control
$1799.95



A2000
A2000 HD-1
A2000 HD-100
Call for Consultation

A3000
16/50
25/50
Call for Custom Configurations



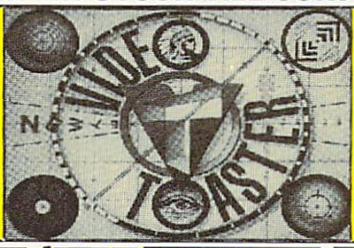
A3000 TOWER...IN STOCK...ALL CONFIGURATIONS!

KITCHEN SYNC
2 CHANNEL TBC
$1499.95

SONY
Vdeck **$1399.95**
Vbox **$369.95**

OPALVISION
LOWEST
ART DEPT. PRO V. 2.0
$149.95

VIDEO TOASTER 2.0
$1949.95!



Commodore AMIGA
A-600
$369.95
A600 HD
w/ 40 meg drive
$549.95



SOFTWARE

Final Copy 2.0	88.50
Pagestream 2.2	168.95
Art Dept. Pro 2.1	148.95
SAS Lattice C V6.0	224.95
Caligan 24	239.00
AMAX II Plus	324.95
DeskJet 500C Driver	39.95
Imagine 2.0	224.95
Pixel 3D 2.0	67.00
Pizel 3D Pro	CALL
Sculpt Animate-4D	299.00
3D Professional	195.00
Broadcast Titler I	225.00
Pro Video Post	197.00
Screenmaker	LOWEST
Avideo 24	CALL
Avideo 12	CALL
Trexx Pro	LOWEST
Toaster 2.0 Upgrade	289.95
Pro Page 3.0	165.00

TBC's & GENLOCKS

DPS Personal TBC III	769.95
DPS TBC 230	1499.95
DPS Personal V Scope	729.95
Kitchen Sync (2 Chan)	1514.95
Iden TBC Card w/TR7	CALL
Prime Image TBC TCB	CALL
Hotronics AP41	949.95
The Personal SFC	359.95
Progressive Per Minigen	184.95
Supergen 2000 Genlock	1349.95
Instructional Videos, Books	CALL

DRIVES

Syquest 44 Meg Int. Drive	279.95
Syquest 44 Meg Cartridge	68.95
Syquest 88 Meg Int. Drive	389.95
Syquest 88 Meg Cartridge	99.95
Syquest Cleaning Kit	24.55
Ext. Chassis Power Supply	99.95
3½" Internal Floppy A-500	67.95
3½" A3000 Internal	84.95
3½" Ext. Air Drive	79.95
Maxtor LXT 213 SCSi	689.95
3½ Roctec Internal Floppy	79.50
Supra 500XP 53MB HD w/512K	529.95
Quant. 52MB SCSi LPS HD	CALL
Quant. 105MB SCSi LPS HD	376.00
Quant. 120MB SCSi LPS	374.95
Quantum 40MB SCSi HD	169.95
Quantum 240MB SCSi HD	639.95
Maxtor 1.2 GiG	1685.95
Dataflyer 500	CALL
Dataflyer SCSi Controller	CALL
Dataflyer Express	CALL

We will not be undersold!
Call if you need a price beat!

IVS Authorized Dealer

INTERACTIVE VIDEO SYSTEMS

Trumpcard 500 Classic	124.95
Trumpcard 500/META 4	184.95
Grandslam 500	289.95
Grandslam 2000	232.00
Trumpcard Pro	144.95
Trumpcard 500 AT	174.95
Vector 030-25-0K	644.95

VECTOR — THIRD GENERATION 68030 PROCESSOR ACCELERATOR
• 68030 & 68000 Share Accelerator, SCSi & RAM
• Exp to 32 meg RAM
• Uses Industry Standard Simms
• Built in Trumpcard Pro

EXPANSION SYSTEMS

DataFlyer Series

DataFlyer Express 500		DataFlyer 500	
		SCSI	119.95
		IDE	114.95
SCSI	169.95	SCSI/IDE	154.95
IDE	154.95	**DataFlyer Ram**	
SCSI/IDE	199.95	8 meg Ok	79.95
DataFlyer 2000		**Baseboard**	
SCSI	64.95	601c	39.95
IDE	64.95	601	29.95
SCSI/IDE	109.95	A500 Baseboard	109.95

PERIPHERALS

Toaster Cozzy	699.95
A2320 Disp. Enhancer (A2000)	209.95
Super Fax Modem w/ Software	349.95
Microbotics VXL 030 25	310.95
Microbotics VXL 030 40	LOWEST
CDTV w/ Pro Upgrage	STOCK
All Computer Safeskins	CALL
Optical Mouse	48.95
Midi Controller (4 outs)	49.95
Phantom Midi Controller	218.95
Microbotics 8up! Dip. 2meg	169.95
Flicker Free Video II	234.95
ICD—All Products Available	CAL
CSA Rocket Launcher	CALL
Prog. Peripherals A2000 28 MHz 040	1568.00
ProRAM 64 MB Exp Card/3000/OK	358.00
Mercury A3000/Imagine 2.0 Bundle	2099.00
DKB-Megachip 2000/500 w/ Agnus	289.95
Multistate II	49.95
DKB 2632 RA Exp/112/4 Meg	439.95

IF YOU DON'T SEE WHAT YOU'RE LOOKING FOR, PLEASE CALL

SOFTWARE

Arock Masterpiece Fonts-Toaster	139.95
1st Prize Toaster Fonts	39.95
Masterpiece Fonts	158.50
Showmaker	239.95
Kara Fonts Headlines 3	45.95
Kara Animfonts (1-3)	29.50
Cinnamon Toast Fonts Vol I, II	64.50
Disney Animation Studio	78.00
The Director V 2.0	72.50
Fractal Pro	49.95
Map Master (Imagine)	44.00
Scenery Animator	57.50
Scenery Animator Disk	18.50
Video Scape 3D	117.00
Vistapro 2.0	84.95
DPaint 4.1	105.95
Dr. T's 3.5 Lev. II KCS	229.95
Diskmaster II	39.95
Directory Opus	37.95
Bars & Pipes Pro	207.95
Toaster Toolkit	99.95
Wipe Master	129.95

MONITORS

Commodore 1084S	279.95
Commodore 1960	LOWEST
Pan. CT-1382Y	234.95
Sony CPD 1304S	579.00
Sony CPD 1604S	999.95
Panasync 1881i	319.00
Nec MS 2A	369.95
Nec MS 4FG	729.95

Tristate is a full service dealer for pros and amateurs alike. We carry everything in Video & Editing

GVP Authorized Dealer — We guarantee lowest prices!!!

A500 HD8+0/52Q-11	CALL	DSS8 Sound Studio	CALL
A500 HD8+0/120Q-11	CALL	Combo 030-25/1/0	CALL
A500 HD8+0/240Q-11	CALL	Combo 030-40/4	CALL
A500-PC 286/512	CALL	Combo 030-40/4/120	CALL
AT Once + PC emulator	CALL	Combo 030-40/4/240	CALL
A2000 HC8+0MB	CALL	G Force 030-50/4	CALL
A2000 HC8+0MB/52Q-11	CALL	Combo 030-50/4/120	CALL
A2000 HC8+0MB/120Q-11	CALL	Combo 030-50/4/240	CALL
A2000 HC8+0MB/240Q-11	CALL	GVP A-530 Turbo	CALL
A2000 RAM 8/0	CALL	Sim32-4MB/60	CALL
1MBx8MB SIMM (2MB)	CALL	S11 030 HD Disk Mt. Kit	CALL

AmiLink CI
Editor Headquarters

A/B Roll System (AG 1960)	CALL
Cuts Only System (AG 1960)	CALL
Toaster Control Module	CALL

ROCTEC AUTHORIZED DEALER

Roctech Superslim Anti Virus/No Click	84.95
Rockey	299.95
Rocgen Plus	289.95
Combo Deal	574.95
Rocmouse	23.95
A500 Int. Drive	74.95

PANASONIC INDUSTRIAL

AG 7750 Single Frame Accurate TBC, Built in serial controlled **IN STOCK** Perfect for Toaster

AG 7650 Built in TBC 32x search companion to AG 7750

AG 770 Controls AG 7750 & AG7650

AG F700 Time Code Reader Card STOCK

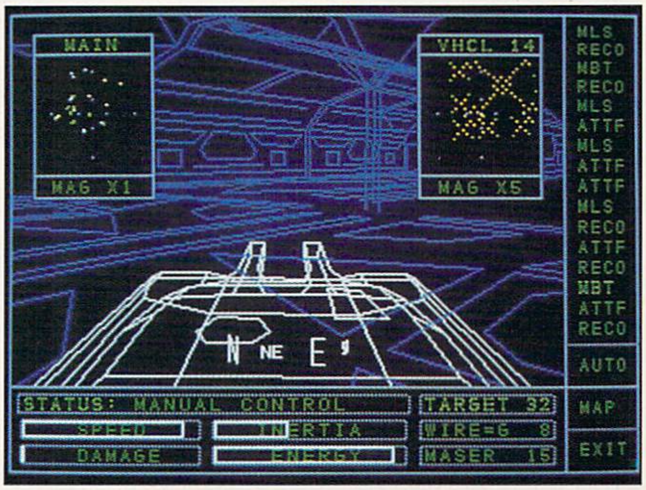
CALL FOR SYSTEM DISCOUNTS

AG-1960	939.95
AG-450 SVHS w/ case	1249.95
AG-460 2 chip SVHS w/case	2899.95
AG-185U	CALL
AGW1	1829.95
AG-190U	STOCK
WV200 CLE	CALL*
AG-7400 Port. SVHS	CALL
AG-1730	SPECIAL
CT-1382Y	234.95
AG-1260 4HD Ind. VCR	259.95

VISA DISCOVER . COD's accepted. Overnight shipping available. 15 day money back guarantee. All merchandise brand new. Factory fresh. Custom configurations our specialty.

Circle 71 on Reader Service card.

From p. 96.



You'll need to fly every training mission to master Air Support.

plex, complete with factories, generators, missiles-launchers, and radar stations. After you're gently introduced to all the gaming facets in the training missions, the real missions—the frustratingly difficult ones—begin.

In terms of graphics, Air Support takes a small step backwards from the hard-edged beauty found in most other Psygnosis titles. Rendered almost entirely in wireframe, Air Support sacrifices aesthetically pleasing filled-polygon graphics for play speed. One bonus to using wireframe graphics is Air Support's slick 3-D mode—using the supplied red-and-blue lens glasses, you can zoom around the gamescape in three dimensions for an added sense of realism. The program makes extensive use of the Amiga's synthesized voice, which announces the destruction of your enemies and your ships, among other important events. Given the difficulty of the game, you'll be glad to have the vocal assistance. Another big help is the included 67-page instruction manual and detailed keyboard reference sheet.

Air Support follows the lead of most other Psygnosis titles and does not support a hard drive. The game's a trifle sluggish on an unexpanded A500, but owners of accelerated Amigas should see a noticeable speed increase.

After the first dozen training missions, you'll realize that Air Support is definitely not for novices—rookies are in for a brief and bewildering playing experience. Air Support has more depth and detail, however, than I've seen in an Amiga game for quite some time. If you're a seasoned armchair general looking for the ultimate gaming challenge, try Air Support.

SHORT TAKES By Peter Olafson

CRUISE FOR A CORPSE

It looked for a while as though Cruise for a Corpse (*U.S. Gold*, $54.95) wouldn't surface stateside, but we've finally been favored with the third in the series of splendid Delphine graphic adventures that started with Future Wars and James Bond: The Stealth Affair. Surprise: It's easily the best of the bunch.

Cruise is bigger than its predecessors (five disks, full-size characters, and none of those one-pixel objects from Future Wars) and yet smaller—confined as it is to a sailing ship in the Mediterranean. Your host has turned up dead, and you're a police inspector with a strong sense of duty. ►

MORE SHORT TAKES

There's plenty to inspect. The ship's been done up in grand detail in graphics rich as chocolate cake. Every object, however minor, seems to have been graced with a description. Every character seems to have something to say...but not quite enough. Damned if you couldn't cut the atmosphere with a knife. You won't solve this one soon.

One more thing: If the character in Cruise looks vaguely familiar to you, it's because it's the same sort of smooth-moving polygon creation used in Delphine's subsequent arcade-adventure hit Out of This World. Watch him walk straight into the screen while on deck; it'll charm you out of your tree.

HUNTER

A superb 3-D filled-polygon wargame, Hunter (*Activision*, $39.95) is basically a mission-based Midwinter: a thicket of tasks to perform, a huge selection of vehicles—from bicycle to jeep to speedboat to helicopter—smooth-as-silk movement, a clean mouse/joystick interface, and some of the richest colors I've ever seen on the Amiga. It feels as though there's electricity in the air. Just look at that sky.

The third-person perspective's a bit unusual—you watch your polygon soldier in the middle distance—but it's not difficult to adjust, and in no time you'll be whizzing over land and sea on missions of sabotage and assassination.

It doesn't have quite the epic sweep of Midwinter, but in some respects Hunter goes Midwinter one better: You can go inside buildings in 3-D mode and collect objects. (Alas, the game does seem prone to hang while exiting said buildings. Just remember where the door is, and be emphatic in your movements.) What can I say? This Hunter has claimed a victim: moi.

MAGIC POCKETS

Call Magic Pockets (*Konami*, $39.95) a cute version of Gods. They're both by the Bitmap Brothers programming team, and they're both glossy and elegant platform games. This one's certainly the more arcade game-like, however—the wee Bitmap Kid waddling his way through all manner of attractive landscapes, dispatching little cyclones to daze and destroy baddies, picking up loose candy, and using an assortment of delightful items. (A TV shows you a broad picture of the terrain around you, and the laser-equipped helmet certainly cuts down on the small talk.) Lots of secret areas to break into as well. This isn't just another platform game. It's a keeper.

A LEAD ZEPPELIN

I'm a great follower of budget games. It's like buying independent 45s in search of the next Nirvana. Trouble is, it's pretty hit or miss; for every Pearl Jam, there are at least a dozen sub-Sonic Youths. (Have you ever played Pac Land? Well, don't.)

Over here, budget Amiga software is a relative rarity. In Europe, as noted last issue, it's a whole way of doing business. Budget publisher *Zeppelin Games*, from the far side of The Pond, has sent us a packet of its recent stuff and...uh, well, thanks. It's easy to understand why these don't cost much.

Arnie ($19.99) is probably the best of the crew. It doesn't star the hasta-la-vista guy you're thinking of, but the little soldier here certainly acts like him, willfully shooting everybody along his horizontal path. It's about as well done as a good Shoot 'em Up Construction Kit game turned on its side. Don't think; just keep pushing the fire button.

The European market is also infested with cute arcade characters with names like Dizzy and Wonderboy. Here's another one: Blinky, a ghost with shiny shoes and a gun (ahem). Titanic Blinky ($19.99) features him wandering around the doomed liner shooting snails and stuff. Competent platform antics, but nothing that hasn't been done twice as well at twice the price.

Stack 'Em ($19.99) is a decent spin on Tetris—what's that, the 209th?—and Arcade Trivia Quiz ($19.99) is...well, just a trivia quiz. "Arcade" appears to figure in neither the game system nor the questions. The contestants make faces, but that shouldn't count.

BEAST BUSTERS

At least this one's good for nostalgia. This sort of scrolling shooting gallery was all the rage three or four years ago in the wake of Taito's Operation Wolf and still turns up now and then in such European games as Line of Fire and Space Gun.

On the plus side, there's a lot going on here. Beast Busters (*Activision*, $39.95) scrolls horizontally, vertically, and in 3-D, and it sure does throw a lot of dead-eyed, blue-skinned creatures at you. These come apart very competently and disgustingly when riddled with bullets, and the game gives you a stack of credits, so you'll probably see more of BB than you ever saw of Capone.

On the minus side, the goings-on are rather too slow, there's very little use of sound, and the palette is limited. (All that pale blue makes BB look like a bad IBM port.) The gunsight doesn't show up very well, and much of the game feels samey. Beast Busters, you're no Operation Wolf.

THE NEXT ROUND

OF DRAGONS AND CAMPAIGNS—ReadySoft has been busy developing and importing. From its own programmers comes Dragon's Lair III: The Curse of Mordread ($59.95), while from the European Empire division Campaign ($59.95) arrives. Dragon's Lair III casts you again as Dirk the Daring, who this time must save Daphne and the children from being trapped in the Vortex of Eternity by the evil Mordread. Set in World War II, Campaign lets you control deployment of troops equipped with among 100 types of vehicles and 15 types of guns. For added depth, you must also manage factories, supply convoys, and airforce support. When opposing troops draw too close on the up to 2000-square-mile map, be ready for battle. (RS# 101.)

ALL HAIL—Caesar (Impressions, $59.95) starts you as a province ruler with only a patch of scrubland on which to build a prosperous city. You choose what to construct where and what to protect from the barbarians, using slave labor and suggestions from a forum of advisers if you wish. Once the community is flourishing, you are evaluated on four criteria. If you're judged worthy, you're promoted to better status and new lands. Can you rise to the rank of Caesar? (RS# 102.)

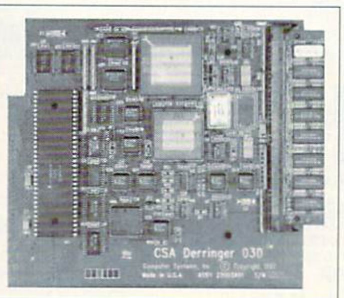
A CHIP OFF THE BALL—Like his famous dad, Wizball, Wizkid is starring in his own arcade-adventure from Ocean. Promising to be a platform shoot-'em-up, adventure, and puzzle game hybrid, Wizkid follows in Wizball's tradition of bizarre humor. This time, Zark has locked Wizard and Wizball in his dungeon and thrown Nifta in the Turtle Jail. Now it's up to you (as Wizkid) to rescue them. Before you leap into the nine multilevel worlds, however, take a moment to watch the intro, which includes a Wizkid training school that explains how to play. (RS# 103.)

CALLING ALL DEVELOPERS—Got a game in the works? Send along the details to The Next Round, AmigaWorld, 80 Elm St., Peterborough, NH 03458. Then watch this space for your coming attractions.

Looking for More Power From Your A500, A1000 or A2000?

The CSA Derringer Accelerator is the Answer

Give your Amiga 500, 1000 or 2000 the power of an A3000 for under $500.00.



- Holds up to 32 megabyte of 32 Bit Ram.
- 68030-25 mhz cpu *with* MMU (not EC)
- 68881 clocked at 25 mhz
- 4 megs of 32 bit Ram (remaps Kickstart)

Only $499⁰⁰

8 meg version add $199.00
68882-25 FPU add $75.00
68882-50 FPU add $150.00

Perfect for Holiday Gift Giving! **Order Now and Receive a FREE 68881 Coprocessor**

Call our Accelerator Hotline Today! – 1-800-CSA-XLR8 (1-800-272-9578)

LASER PRINTER MEMORY

HP II, IID, IIP, IIID, IIIP and all other Plus Series

Board with 2 MB	$89.95
Board with 4 MB	$149.95
Deskjet 256K Upgrade	$69.95
Two Boards (for 500, Series)	$130.00

Similar savings on Panasonic, Star, OKI, TI, Nec, Epson and others.

Panasonic/Citizen 32K Buffer $14.95

COMMODORE CHIPS

1 MB Agnus w/Puller and Instructions	$44.95
Super Denise	$33.95
1.3 ROM	$26.95
CIA 8520 $10.95 or two for	$19.95
2.04 Kit for A3000	Call
A1000 1.5 MG Upgrade with Clock/DKB	*$189.95*
Multistart II – Rom Switcher Rev 6a	$39.95
CSA Rocket Launcher – 2630 Doubler	$499.00

Amiga 500 Controllers

IVS Gland Slam 500	$299.00
IVS Trumpcard Pro 500	$245.00
IVS Trumpcard Classic 500	$129.00
IVS Trumpcard 500AT/IDE	$179.00

Amiga 2000 Controllers

IVS Grand Slam	$229.00
IVS Trumpcard Professional	$149.00
IVS Trumpcard Classic	$85

Grand Slam and Trumpcard Professional are the World's Fastest SCSI Controllers for the Amiga computer. Both controllers have returned disk transfer rates in excess of 2.1 Mbytes per second.

Trumpcard 500AT

Rated "Best Buy" on the Amiga 500. (AW Feb. '92 Issue) Holds up to 8 Megs of Simms and a fast AT/IDE drive!

Ultimate Amiga Peripheral

Trumpcard Pro includes SCSI-SHARE Networking and the World's Fastest SCSI Controller! This unit works great with any accelerator.

DRAM BLOWOUT

We'll Beat any Advertised Price! Nobody's Cheaper

SIMMS

IVS 1 MEG Simms	$29.95
1x8–80	$29.95
1x8–70	$31.95
4x8–80	$99.99
4x8–70	$105.00
4x8–60	$109.00
A4000 4MB Simms	$175.00

GVP SIM32

4 MB	$199.99
1 MB	$69.95

GVP NIBBLE MODE SIMMS

4 MB	$250.00
GVP 40ns Simms	Call

ZIPS

A3000 Static Column Zips	
Each	**$14.99**
32 Pieces	**14.50ea.**
1x4–70 SCZ	$15.50
1x4–60 SCZ	$16.50

Includes Instructions

PAGE ZIPS

1x4–80	$15.95
256x4–80	$4.50
256x4–100	$4.00

DIPS

1x1 – 100	$3.49
1x1 – 80	$3.99
1x1 – 70	$4.50
256x4–80	$3.99
256x4–70	$4.50
1x4–80	$15.95
1x4–70	$16.95
256x1–120	$1.00

Due to trade tariffs all prices are subject to change without notice.

IVS

As always, all IVS products include TC Utilities 2.0! ALL products are 100% compatible under WB 2.0 and w/ removable media!

Meta4 –1 MB	$89.00
IVS – 1 MB Simms	$29.95

VECTOR with MMU

Third Generation 68030 Processor Accelerator for Amiga 2000

- Up to 32 MB of RAM
- RAM and SCSI avail. in 68000
- Over 25% faster than G-Force™
- Built-in 2630 Expansion Bus

25 Mb $599.00
33 Mhz and 40 Mhz .....Call

High Speed SCSI Controller

- SCSI-Share™ Networking
- Features PRoPLEX™
- 25, 33 or 40 Mhz
- Includes 68030/MMU & FPU

Only at Memory World!

Memory World
3070 Bristol Pike • Plaza I, Suite 213
Bensalem, PA 19020 • Attn: Amiga Dept.

PHONE ORDERS: 215-244-7930
FAX ORDERS: 215-244-7932

Prices Subject to Change without notice

VISA/MC/CHECK • Add $5.00 for Shipping & Handling • Add $15.00 for Overnight delivery • Add $7.00 for two-day deliver • Add $4.00 for C.O.D. • APO, AK, HI, Foreign shipping – call for rates • 10% Restocking fee for return of non-defective items

AMIGAMAN

AUTHORIZED COMMODORE DEALER SINCE 1980
NO ONE KNOWS AMIGA BETTER

Orders Only USA & Canada
1-800-258-0533
9AM - 9PM M-F, 10AM - 5PM SAT **SUNDAY** 12 - 5PM

DKB MegAChip
Get 2 megabytes of chip RAM for your A2000 & A500 w/Super Agnus **$265**

Multi-Start II v6
Dual ROM Board assembly
Run 1.3 or 2.0 on your Amiga 500/2000 at the push of a key, with ribbon cable.
w/2.0 ROM $119 **$35**

2632 MemoryBoard w/4mb RAM $499
for the Amiga 2500 and 2630 accel Up to 32MB RAM

HiQ A500 Tower
TURN YOUR AMIGA 500 INTO A POWERFUL AMIGA TOWER.
Install: Your 3.5" Drive, A500 Mother Board, and Keyboard
Includes:
Metal cabinet & speaker
Key/lock Security, Speed LED,
250W powersupply
5 exposed drive bays
5 hidden drive bays
Daughter board with:
4 A2000 Slots,
3 PC Slots
Accelerator Slot
Video Slot
Keyboard Case w/cord
Toaster Compatible,
All the power of the A2000 and More
$629

Amiga A570 CD-ROM DRIVE
For Amiga 500
Requires 1MB FATTER AGNUS active.
NEW
Full CDTV Compatibility
Internal 2mb RAM Expansion
Rear Expansion Slot
$429 FREE mother board upgrade with purchase of drive.

ICD
The ICD Advantage

AdSpeed
68000 at 14.3 MHz. Best Overall performance of any accelerator in its price range. **$169**

AdRAM 540
Add up to 4 meg of RAM internally in your Amiga 500. **$91**

Kickback NEW
ROM switch for 2.04 & 1.3 ROMS. **$35**

Flicker Free Video 2
Eliminates interlace flicker for any Amiga Computer. Use with VGA or Multisync Monitors **$239**

Shuffle Board
Reroutes df0: to the external floppy connector. Boot from external floppy drive. **$29**

AdIDE40 for 3.5" hard drives
Smallest Amiga hard drive interface made for IDE (AT) drives **$99**

AdIDE Kits
Mount a 3.5 inch IDE harddrive internally in your Amiga 500. Includes IDE 40, Shuffle Board & mountings. **$139**

Novia 60i
60MB internal hard drive & interface for your Amiga 500. **$479**
W/Built in AdSpeed **$669**

Trifecta
NEW
FASTEST
hard drive controller on the market!!!
Call
A2000 hard drive card
or
External A500 hard drive
Internal slot accepts GVP 286 board

Alfa Data
512K RAM Expander For A500
$34

Alfa Data EXTERNAL 880K DRIVE
FULLY AMIGA COMPATIBLE
$79
Other Amiga Compatible Drives
A.I.R. Drive - $79
Roctec Ultraslim - $89

AMIGA 500 EXPANSION SET
512K RAM w/Clock/Calendar/Bat & 880K Drive Amiga Compatible **$99**

Chinon CD-ROM
Internal Drive $449
External Drive $575
Includes Cables and CD-FS software
Requires a SCSI cont. (dual-speed)

GOLDEN IMAGE
Opto-Mechanical Mouse **$29**
Master3A1N 880K AMIGA DRIVE **$75**
Optical Mouse (Not shown) **$55**
Brush Mouse Works Like a Pen **$49**
Handscanner W/Powerful Migraph Touch-up software **$159**

DATAFLYER Express
NEW
as low as **$175**
Hard Drive Controller for 3.5" LPS Drives
Up to 8MB Ram Expansion
Auto booting & install
SCSI, IDE or Both

GVP SERIES II A500 HARD DRIVES
EXPAND UP TO 8MB RAM
W/120 MB hard drive $649
w/213 MB hard drive $879
w/240 MB hard drive $899

MicroBotics VXL-30
NEW LOWER PRICE
68030 Acceleration for A500, A2000
25MHz $279
with 68882 $409
40MHz $369
with 68882 $489
Compatible with 1.3 & 2.04 ROMS
NOW IN STOCK
VXL RAM-32 2MB $242
VXL RAM-32 8MB $633

DataFlyer 500
Hard drive controller
Budget solution for your Amiga500
Controller only **$122**
W/Hard Drive **Call**
DataFlyer RAM OK-$87

GVP A530 Turbo
NEW
ALL-IN-ONE
EXPANSION FOR A500
40MHz Accelerator
Hard drive
RAM Expansion
w/120MB HD **$1099**
GVP/PC286 IBM Card $239 when purchased with either of the above. ($245 alone)

SupraRAM RX
External RAM
Expand your A500 to the MAX.
Pass-through design
1MB up to 2MB **$129**
2MB up to 8MB **$199**

EXPANSION SYSTEMS BASE BOARD
512K to 4MB RAM Expander For AMIGA 500
$91 0K
w/512K - $114, w/1MB - $139
w/2MB - $187, w/4MB - $271

Productivity Software

Art & Animation
Art Department Pro 2.1	$159
Imagemaster	$135
Deluxe Paint IV V4.1	$122
Disney Anim. Studio	$79
Draw 4D Pro	$199
Imagine 2.0	$259
Pixel 3-D 2.2	Call
Prof. Draw 3.0	$125
CindeMorph	$99
Vista Pro 2.0	$59

Databases
Microfiche Filer	$62
SuperBase Personal 2	$94
SuperBase IV 1.2	$185

Music
Bars and Pipes	$99
Bars and Pipes Pro	$209
Delx Music Const. Set	$69
Super Jam	$89
Sync Pro	$179
Patch Meister	$59

Spreadsheets
Advantage	$125
Maxi Plan 4.0	$99
Professional Calc	$189

Utilities
Amiback 2.0	$50
Cross DOS 5.0	$33
Directory Opus	$37
abeldex	$47
Quarterback5.0	$45
Quarterback Tools	$53
SAS/Lattice C 6.0	$274
Visionary	$62

Video & Presentation
AmigaVision	$89
Broadcast Titler II	$229
Broadcast Titler HiRes	$109
Can Do 2.	$112
Pro Video CG II	$112
Pro Video Post	$209
Scala 2.0 Multimedia	$299
Video Director	$169

Word Processors & Desk Top Publishing
Final Copy II	$84
Page Stream 2.2	$169
Pelican Press	$62
ProWrite 3.3	$56
Professional Page 3.0	$179
Proper Grammar	$59

Prof. Page 3.0 / Prof. Draw 3.0
Combo $209

MORPH PLUS
Limited Offer
Our Price $169
Mfr. Rebate -$20
$149 After Rebate

FINAL COPY II
Only $84

PROWRITE 3.3
Only $55

Education
Adventures in Math	$25
Algebra II	$29
Amy's Fun-2-3 Adventure	$31
Animal Kingdom	$24
Barney Bear Camping	$22
Barney Bear at the Farm	$22
Barney Bear in School	$22
Barney Bear in Space	$22
Calculus	$31
Carmen San Diego Time	$31
Carmen San Diego USA	$31
Carmen San Diego World	$31
Crossword Const. Kit	$25
Discovery Math/Spelling	$25
Distant Suns 4.0	$55
Fraction Action	$24
Katie's Farm	$25
Land of the Unicorn	$24
Marks Math Lab	$31
Math Talk	$25
Math Blaster Plus	$31
Mavis Beacon Typing	$34
McGee Fun Fair	$25
Read & Rhyme	$24
Talking Animator	$41
Talking Coloring Book	$19
Trigonometry	$31
Word Master	424
World Atlas	$35

EUROPEAN MAGAZINES
AMIGA Format w/Disks	$10
AMIGA Action w/Disks	$10
C.U. AMIGA w/Disks	$10
AMIGA Power w/Disks	$10
1 for AMIGA w/Disks	$10

Books
Amiga for Beginners	$13
Amiga Dos Quk Ref. Guide	$8
Amiga Dos Inside & Out	$19
Amiga Basic Inside & Out	$19
Amiga C for Beginners	$15
Amiga C for Advanced	$26
Amiga Intern	$27
Machine Language	$15
Graphics Inside & Out	$26
Desktop Video Power	$23
Best of AmigaTricks&Tips	$23
Using Arexx	$26
Imagine Companion	$24
ROM Kernel:Autodocs 3rd Ed.	$27
ROM Kernel:Devices 3rd Ed.	$20
ROM Kernel:Hardware 3rd. Ed	$20
ROM Kernel:Libraries 3rd. Ed.	$27
Understanding Imagine 2.0	$27

Video Tapes
Amiga Primer	$24
Animation 101	$29
DCTV: A Guided Tour	$33
Deluxe IV Video Tape	$24
Desktop Video Volume #1	$24
Desktop Video Volume #2	$24
History of the Amiga	$16
How to Animate	$25
Imagine: A Guided Tour	$33
Pro. Techniques w/ DPaint	$25
The Newtek Video Toaster	$22
Toaster Essentials	$31
Toaster Paint Essentiials	$31
Toaster CG Essentials	$31

CDTV
American Vista	$64
Barney Bear School	$27
Barney Bear Goes Camping	$27
Battle Storm	$33
Case of Cautious Condor	$33
CD Remix	$37
Classic Board Games	$33
Defender of the Crown	$33
Falcon	$52
Fred Fish Collection 1.5	$43
Guinness Disc of Records	$39
Illustrated Dictionary	$47
Illustrated Holy Bible KJV	$37
Illustrated Shakespeare	$37
Lemmings	$33
Mind Run	$34
Murder Makes Strange.....	$33
My Paint	$33
Power Pinball	$29
Sim City	$49
Snoopy	$33
Spirit of Excalibur	$37
Team Yankee	$33
Time Table Business	$39
Ultimate Basketball	$33
Wrath of the Demon	$33
Xenon II	$39
Lots of New Titles	*CALL*

CDTV Keyboard
Infra-red Mouse & Disk Drive
$199
Trackball Contrllr $99

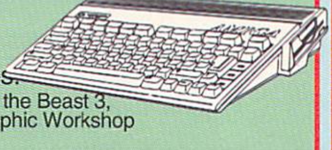
Orders Only USA & Canada
1-800-258-0533

9 - 9 M - F (West Coast customers call up to 6PM PST) , **10- 5 Sat.** SUNDAYS 12-5
24 Hour Fax line (412) 962-0279, Customer Service (412) 962-0533



AMIGA 600

THE MOST POWERFUL ENTRY LEVEL AMIGA EVER PRODUCED.
1MB CHIP RAM expandable to 2MB, 880K internal drive, 2.0 operating system, ECS chip set, Built in RF and color Color Composite video.



Starter Unit
$399 Includes: Robocop 3, Shadow of the Beast 3, Myth, MicroText, & Graphic Workshop

Advance Harddrive Unit
$579 Includes: Push Over, Virtual Reality Studio 2 Myth, MicroText, & Graphic Workshop

AMIGA 600 EXPANSION SET
1MB 601 RAM card & 880 drive $149

GVP

#1 Name in AMIGA Accelerators

G-Force 30
68030 All in one board
with SCSI interface

25MHz/25/1MB	$639
40MHz/40/4MB	$1059
50MHz/50/4MB	$1579

Expandable to 16MB of 32-bit RAM
4MB 32Bit extra RAM $199

G-Force 40
68040 All in one board for your A2000
33MHz/33/4MB $2149
includes SCSI controller
for your A3000
28MHz/28/2MB $1499

SPECIAL BUY

Commodore
A2000 Harddrive controller w/drive
105MB Quantum **$399**

MIRACLE KEYBOARD



$329

2.04 ROM

for AMIGA 500/2000
includes books and work-bench disk
$79

Video Toaster $2029

Enhancement Options

Personal TBC III *NEW*	$889
Personal V-Scope	$799
Personal SFC	$379
BCD 2000A VAC	$849
DQ-TACO	$1899
AmiLink C/I (cuts only)	$995
AmiLink C/I (AB Roll)	$1495
AmiLink/Toaster Software	$150
Kitchen Sync	$1599

Software Options

Toaster Tool Kit	$110
Toast Master	$94
Wipe Master	$125

Toaster Fonts

1st PrzToasted Fonts	$159
Cinnamon I or II	$62
Bread & Butter	$69
Kara Toaster I, II, III,or IV	$62
Masterpiece	$89
Video Fonts 2	$62
Screen Maker	$62

Complete
Digi-View *System Mediastation*

$399



Includes:
Digi-View Gold 4.0
Digi-Paint
Elan Performer
Copy Stand
Panasonic 1410 camera
video switch
and all cables.

Only complete system offered

Digi-View Mediastation	$165
1410 Camera w/lens	$179
Copy Stand	$62
Cable / Switch Set	$35

EXPANSION SYSTEMS
DataFlyer *2000*

Budget hard drive solution for your A2000
SCSI Controller only **$74**
W/Hard Drive Call
DataFlyer RAM 0K $91,

GVP SERIES II

A2000 SCSI CONTROLLER



$160
W/0K Expand up to 8MB RAM
W/120MB HD Call
W/240MB HD Call

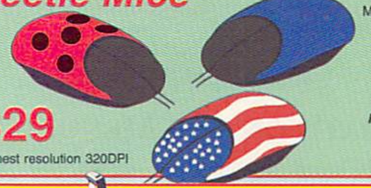
GENITIZER

Electronic Drawing Tablets for *AMIGA*
Includes driver that allows it to work with virtually all Amiga drawing programs.



9" x 6" **$189**
12"x12" $310, 18"x12" $489

Beetle Mice



COLORS
MOUSE - BUTTONS
Red - Black
Yellow - Black
Black - Black
Blue - Black
Black - Yellow
NEW LADY BUG
Red - White - Blue

$29
Highest resolution 320DPI

Handscanner

400DPI w/*Scan and Save* software



$144

External SCSI HardDrive Cases

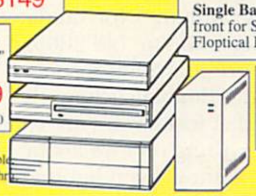
Dual Bay open/closed front for 2 half height HD's or Syquest, etc **$149**

Four Bay open front for 4 half height 5.25" HD's, CD-ROM or Syquest, etc. (not shown) **$259**
3.5"HD mounting Kit $10

Single Bay closed front for 3.5" HD **$99**

Single Bay open front for Syquest or Floptical Drive **$99**

Upright, small foot print for single 3.5HD **$109**



All units include: Power supply, SCSI external cable, Power cable, SCSI pass thru and Mounting hardware



Games

(100's of titles available) (Call for more titles)

4d Sports Boxing	$37
4d Sports Driving	$29
A10 Enhanced Tank Killer	$37
A320 Airbus	$47
A-train	$44
Abyss	$25
Agony	$31
Air Support	$31
American Gladiators	$25
Amnios	$31
Amos 1.2 The Game Creator	$62
Amos 1.3 The Compiler	$44
Amos 3d	$44
Amos Professional	$87
Anarchy	$25
Aquaventura	$37
Armour Gedden	$28
Awesome	$37
Back To The Future III	$25
Bane Of Cosmic Forge5	$37
Barbarian II	$31
Bards Tale III	$34
Battle Chess	$31
Battle Command	$24
Battletoads	$26
Big business	$31
Birds of prey	$37
Black Crypt	$37
Boppin	$25
Breach II	$31
Campaign	$37
Cardinal Of The Kremlin	$31
Carl Lewis Challange	$31
Carmen, Where In Europe	$31
Carmen, Where In Time	$31
Carmen , Where In The Usa	$31
Carmen, Where In The World	$31
Castle Of Dr. Brain	$31
Castles	$37
Centerfold Squares	$19
Champions Of Krynn	$34
Checkmate	$34
Chessmaster 2100	$34
Civilization	$47
Clue Master Detective	$25
Conquest Of Camelot	$37
Conquest Of Japan	$37
Creepers	$31
Crusaders/ Dark Savant	$44
Curse Of Azure Bonds	$12
Cybercon III	$33
Darkman	$28
Death Knights Of Krynn	$34
Dinowars	$25
Discovery, Steps Of Columbus	$37
Double Dragon II	$25
Dragon Strike	$34
Dragon's Lair	$37
Dragon's Lair II: Time Warp	$37
Dungeon Master I & 2 Bundle	$31
Elf	$34
Elvira	$37
Elvira 2 Jaws Of Cerberus	$44
Empire	$34
Epic	$44
Eye Of The Beholder	$39
Eye Of The Beholder II	$43
F14/f18	$31
F15 Strike Eagle Ii	$37
F19 Stealth Fighter	$37
F29 Retaliator	$34
Faces: Tris 3	$25
Falcon	$31
Falcon Mission 1: Counter..	$16
Falcon Mission 2: Firefight	$19
Fantastic Voyage	$31
Fighter Duel: Corsair Vs. Zero	$17
Fighter Duel Pro	$37
Fighter Duel Pro Flight Recorder	$49
Fighter Duel Pro Parallel Adap	$15
Final Fight	$25
Flames Of Freedom (Midwinter 2)	$31
Flight Of The Intruder	$37
Four Crystals Of Trazere	$37
Gateway To The Savage Frontier	$34
Global Effect	$37
Gods	$25
Gunboat	$31
Gunship	$34
Guy Spy	$31
Hard Nova	$34
Hardball 2	$31
Harpoon Designer Series	$37
Harpoon Signature Serices	$59
Heart Of China	$37
Heimdall	$31
Hillsfar	$34
Hoi	$25
Hole In One Minigolf	$25
Hoyle's Book Of Games 1	$22
Hoyle's Book Of Games 2	$22
Hoyle's Book Of Games 3	$31
Immortal	$34
Indianapolis 500	$34
lack Nicklaus Clip Art Course	$16
Jack Nicklaus Courses #3	$14
Jack Nicklaus Courses #4	$14
Jack Nicklaus Courses #5	$14
Jack Nicklaus Unlimited Golf	$37
Jaguar XJ2200	$31
John Madden Football	$37
Keys To Maramon	$34
KGB	$19
Killing Game Show	$28
Kingdoms Of England Ii	$37
Kings Quest II	$31
Kings Quest III	$32
Kings Quest IV	$37
Kings Quest V	$37
Leander	$31
Leisure Suit Larry 5	$37
Lemmings	$31
Lemmings, Oh No! More	$22
Lemmings II	$37
Links	$38
Links - Bountiful Country Club	$16
Links - Firestone Country Club	$16
Lost Treasures Of Infocom	$44
M1 Tank Platoon	$37
Megafortress	$44
Megafortress Mission Disk #2	$31
Megalomania	$31
Megatraveller 2	$37
Might & Magic 3	$41
Murder!	$28
Mig29 Super Fulcrum	$31
Obitus	$37
Ork	$31
Out Of This World	$37
Over The Net	$25
Pacific Islands	$31
Paladin 2	$37
Perfect General	$37
Perf. Gen. Data Disk W.W.II	$22
PGA Golf	$34
Pick N Pile	$28
Pinball Fantiasies	$31
Pinball Dreams	$25
Pit Fighter	$24
Police Quest 3	$37
Pool Of Radiance	$13
Pools Of Darkness	$41
Populous	$34
Populous 2	$41
Populous 2 Challenge	$23
Ports Of Call	$19
Power Pinball	$25
Powermonger	$34
Powermonger WWI Data Disk	$22
Pro Football Simulator 3.0	$28
Pro Tennis Tour Ii	$34
Bridge 6.0	$25
Quest For Glory 2	$37
Railroad Tycoon	$37
Reach For The Skies	$19
Red Baron	$37
Red Storm Rising	$34
Red Zone	$31
Rise Of The Dragon	$37
Road Rash	$37
Robin Hood:Conquest Of Longbow	$37
Robosport	$38
Rules Of Engagement	$39
Scrabble	$25
Search For The King	$37
Secret Of Monkey Island 2	$38
Shadow Land	$31
Shadow Of The Beast	$25
Shadow Of The Beast II	$37
Shadow Of The Beast III	$37
Shadow Sorcerer	$34
Silent Service II	$37
Sim Ant	$37
Sim City	$31
Sim City Graphics #1 Ancient	$13
Sim City Graphics #2 Future	$13
Sim City Terrain	$12
Sim Earth	$47
Simpsons	$39
Solitaire Royale	$22
Space 1889	$37
Space Ace	$37
Space Quest	$31
Space Quest Ii	$32
Space Quest Iii	$37
Space Quest Iv	$37
Spacewrecked	$19
Speedball 2	$25
Spiderman	$25
Spirit Of Excalibur	$31
Star Control	$31
Starflight	$34
Starflight 2	$34
Stellar 7	$22
Stratego	$31
Strip Poker 3	$31
Strip Poker 3 Data #1 Digitized	$16
Strip Poker 3 Data #2 Digitized	$16
Strip Poker 3 Data #3 Digitized	$16
Strip Poker 3 Data #4 Digitized	$16
Team Yankee	$37
Team Yankee 2	$40
Tengen Arcade Hits	$25
Terminator	$34
Terminator 2	$43
Test Drive 2 The Duel	$31
Tetris	$22
Thunderhawk	$31
Teasure of the Savage Frontier	$36
Trump Castle 2	$31
Ultima VI	$44
Ums II	$37
Vengeance Of Excalibur	$31
Virtual Reality Studio	$55
Visionary	$62
Volfied	$25
War In Middle Earth	$31
Wargame Construction Set	$28
Warlords	$31
Waterloo	$39
Wayne Gretzky 2:	$34
Welltris	$22
Willie Beamish	$37
Wings Of Fury	$24
Wolf Pack	$34
Wonderland	$37
World Circuit Grand Prix	$37
World Class Soccer	$25
Wrath Of The Demon	$31
Yeagers Aft. 2.0	$28

Hardware

Midi's

ECE Midi	$49
Midi Gold 500	$56
Midi Gold Insider	$65
Midi Connector w/ cables	$59
Phantom SMPTE MIDI	$229
Midi cable 6ft	$8
Omni Midi	$39
Miracle Keyboard	$329

Audio

Audiomaster 4	$62
Digital Sound Studio	$89
Perfect Sound 3.1	$69
SoundMaster	$139
Studio 16/AD 516	Call
Studio 16/AD1012	$539

Video/Genlocks

G-lock	$425
MiniGen	$199
RocGen Plus	$359
Supergen Genlock	$649
Chroma Key plus	$329
DCTV	$399

Replacement Parts

Big Foot 200W powersup.	$89
A500 Internal Drive	$79
A2000 Internal Drive	$75
A3000 Internal Drive	$95

PC/Mac Emulators

AMAX 2 PLUS	$379
AT ONCE Plus	$279
Power PC Board	$289
Golden Gate 386sx Board	$599
Golden Gate 486slc Board	$1099
Amiga 2286 Board	$249
Amiga 3386 Board	Call

Joysticks, Mouses & Trackballs

Slik Stik Joystick	$7
Boss Joystick	$15
Tac 50 Joystick	$17
Bat Handle Joystick	$25
Jin Mouse	$25
Opto-Mec hanical Mega Mouse	$35
Optical Mouse	$55
Boing Optical Mouse	$94
Amtrac Trackball	$69
Kraft Trackball	$59
Mouse Switch (automatic)	$29

Supra Modems

2400 External	$89
2400Plus External	$125
2400Plus ZI Internal	$169
FAX Modem14400	$309
FAX Modem 9600	$249
FAX /Modem Softw ($60w/Modem)	$79

Zoom Modems

2400 Ext.	$75
2400 w/MNP5 & v.42 bis	$145
9600 v.32 bis	$399
Cable $10 ($5 w/modem)	
PHONEPAX from GVP	$429

Video Display Boards

Flicker Free 2	$239
Flicker Fixer	$249
Opal Vision	$988

SHIPPING - NORMALLY WITHIN 2 BUSINESS DAYS

UPS GROUND (continental US)

$0 TO $99	7%	MIN $5
$100 TO $199	5%	MIN $7
$200 TO $499	4%	MIN $10
$500 TO $799	3%	MIN $20
$800 -	2.5%	MIN $24

2nd Day(Blue) add $6 to UPS Ground
Next Day(Red) add $11 to UPS Ground
APO,FPO add $11 to Ground
CANADA add $11 to Ground
PR, HI, AK add $10 to Blue/Red
COD orders OK. Prices subject to change without notice.Returns accepted for 10 days afterdate of purchase.

Call for RA# before returning. Defectives replaced with same item. 15% Restocking fee for items returned and not exchanged for same. Customer responsible for return shipping.
International Orders (not APO, FPO.) send copy or FAX of front & back of Charge Card w/signature. Call or FAX for shipping quote.
FAX# 1 (412) 962-0279
Mailing Address:
Computer Basics, Inc.
1490 N. Hermitage Rd.
Hermitage, PA 16148

HELP KEY

Will he solve the mystery of the disappearing drives…the case of the hi-res slow-mos…the menu quandry? Read on.

By Tim Walsh

DISAPPEARING DRIVES

Q. *I've tried for three years to successfully install Workbench 1.3 on two A2000s. When 1.2 is installed, the OS recognizes my C Ltd. hard disks, but install 1.3 and poof!—they vanish from Workbench. I've rewritten the startup-sequence with various mountlists, device drivers, binddrivers, and Echo statements, all to no avail. I'm ready to give up, especially since C Ltd. is out of business. What can I do?*

Eugenia Schneider
China Lake, CA

A. Your problem most likely lies in the controller card, not the hard drive. Recently at the *AW* editorial offices, a hard disk on one of our older A2000s began spewing "Volume Not Validated" messages. Since it was an old 2000, I dusted off an original 2090 Install Disk. But, oddly, double-clicking the format icon *didn't* format the drive, but wiped out everything on it in about half a second, without even lighting up the drive's activity light—a bad sign!

Confounded, I popped the cover off and pried out the hard disk controller card. *Aha!* Some well-intentioned soul (a.k.a., yours truly) had swapped cards at some point and a 2091 was in place of the original 2090 controller. Formatting the drive with a 2091 Install disk resolved the mystery.

It's unlikely that your C Ltd. drives have one of the newer 2091 controllers. Forget about rewriting the startup-sequence and fiddling with mount-lists; rather, do what I did. Remove the cover from the A2000s and check the names and model numbers etched into each machine's hard-disk controller. No matter how old or rare the controller card, you can probably find the custom installation software necessary to cure the 1.3 installation ills.(Check dealers, user's groups, BBSs or on-line services.) If all else fails, and the cards are indeed incompatible with 1.3, you may want to consider getting a newer hard-disk controller complete with its software. And if so, I'd take the opportunity to forget 1.3 altogether and upgrade both machines to 2.04.

HI-RES DOLDRUMS

Q. *My A2000 is equipped with 2.04 ROMs, ECS, four megs of fast RAM, and a 40MB SCSI hard drive. When I use the 16-color hi-res modes of the the new Workbench, the machine slows almost to a standstill. (My old A500 even runs faster). I thought the Fatter Agnus and extended RAM would boost performance, not hinder it. I've tried to reconfigure my hard drive, and I've customized the buffers and caches, but the system still drags. I know accelerators are the answer, but they're too expensive. I thought more RAM would speed things up.*

Damon Gibson
Clovis, NM

A. You've happened upon a fact of Amiga life that all users of AmigaDOS 2.0x soon discover: Enhanced screen modes slow down screen refresh rates. While variable system configurations also affect performance, no matter how much RAM you pack into an unaccelerated machine, the speed at which the system operates is virtually unchanged.

When using pre-2.0 OS software, few Amiga users are bothered by the speed difference between screen modes. Sure, screen updates on even unaccelerated machines equipped with Workbench 1.3 or earlier are slightly noticeable between interlaced and de-interlaced screens, but the flicker is usually more bothersome than the slower speed.

When 2.0 became available on the new A3000, everyone accustomed to working with 1.3 on the older machines noticed the speed difference in the hi-res modes, especially when working with more than eight Workbench colors. I recall thinking if the various 16-color Workbench hi-res modes of 2.0 slow down a fast 68030-equipped 32-bit machine, they would bog down a stock Amiga like a hayfield would a push lawnmower. Still, while screen updates in the enhanced Workbench 2.04 modes exhaust the computer's resources, there are solutions.

Short-term band-aid advice: Make a quick trip to the Prefs drawer and set the palette for four colors, install the smallest screen font you can read, and use 2.04's ScreenMode Preferences to stay locked into the lowest screen resolution available; also, keep a minimum number of windows open on the Workbench at any given time, limit your multitasking, and don't use more than one custom screen at a time. The best, and final solution, however, is to get a new or used 68030 or '040 card as soon as finances permit. With your Amiga running at 25 times stock speed, chances are slim you'd have any complaints about sluggishness, no matter what display mode.

WHAT'S ON THE MENU?

Q. *I've heard there are programs that will allow me to create my own pull-down menus. Where can I find them?*

Noah Meyerhans
Skowhegan, ME

A. Next to a cool drink on a hot day, nothing makes using an Amiga more pleasurable than a good menu enhancement program. Best of all, most are available as shareware on the nets, BBSs, and PD disk collections. Check out General Menu V2.01, a CanDo utility for launching executable programs with a click of a button, or, if C programming's your thing, look for MenuC v1.0, which has the structures needed to create both 3-D menus and screen gadgets. Tool Manager 2.0. lets you easily add items to the Tools menu under AmigaDOS 2.04, add Appicons to the Workbench, and create screen docks for icons. My favorite is Steve Tibbett's ToolsX. It's the easiest, fastest way to add menu items and hotkeys to the 2.0 Workbench Tools. ■

Software Hut

Folcroft East Business Park 313 Henderson Dr Sharon Hill, PA 19079

Commodore AMIGA

Info 215-586-5701
FAX 215-586-5706

Orders 800-93-AMIGA

Hours: Mon-Fri 9 to 6
Sat 9 to 5 - Eastern

We do not publish a catalog. Please call if you don't see what you want.

- *One of the East Coast's largest Authorized AMIGA dealers*
- *Full line of Hardware, Software, & Peripherals... IN STOCK*

Hard Drives & Bridgeboard

CBM A2286 AT Bridgeboard	$279.00
Conner & Fujitsu Hard Drives	Call
GVP Series 2 HC8/0 HD Cont	169.00
GVP A500 HD8/0+ 120Mb	599.00
Quantum Hard Drives	Call
Syquest 44Mb Removable	299.00
Syquest 88Mb Removable	***399.00***
Syquest 44Mb Cartridge	75.00
Syquest 88Mb Cartridge	119.00
Case & Cabling to make Ext. Syq	100.00
Seagate ST3283N 240Mb LPS HD	599.00

Accelerators & RAM Boards

Fusion Forty 040/28Mz for A2000	$1379.00
GForce Combo 030/40Mz/4Mb	999.00
GForce Combo 040/33Mz/4Mb	Call
Many GVP Accel Configs Available	Call
GVP SIMM 32 - 4Mb 60ns for above	209.00
GVP A530 Turbo 40Mz/120Mb/1Mb	Call
GVP 8Mb Board w/2Mb installed	149.00
Progressive Accelerators In Stock	Call
Supra 500RX RAM 2Mb	199.00
VXL30 25Mz Accelerator	319.00
VXL32 Accel 2Mb 32 bit RAM board	249.00

Power Supplies, Video, & More

1802 Composite Monitor for Toaster	$139.00
A500 Internal Floppy Drive	89.00
A2000 Internal Floppy Drive	89.00
A500 Keyboard	49.95
A2000 Keyboard	89.95
A2232 Multi Serial Card	319.00
A2320 Display Enhancer	235.00
A500 Replacement Power Supply	35.00
Big Foot Power Supply	89.00
CBM A2000 Power Supply	129.00
CBM Replacement Mouse	28.00
DCTV	399.00
Golden Image Amiga Mouse	32.00
GVP I/O Extender	Call
GVP Phone Pak VFX	339.00
Janus 2.1 Upgrade Kit	***35.00***
Karaoke Player for CDTV	***159.00***
Kraft Triple Track Trackball	40.00
Speedking Analog Amiga Joystick	21.00

SPECIAL

A2091 Controller
$65.00
Maxtor 7120S 120Mb SCSI
$315.00
Both A2091 & 7120S
$359.00
Add 2Mb RAM to A2091 $80.00

MINDSCAPE
POWERPLAYERS
JOYSTICK



- Microswitches
- Steel shaft
- Ball-bearing pivot
- Pistol grip
- Large trigger
- Originally $34.95

One for $8.95 - Two for $8.50 each

EXCLUSIVE

CBM A2024 Hi-Res Monochrome Monitor

- 1008 x 600 Resolution
- 14" Paper White Display
- Supports *ALL* Amiga Models
- Supports *ALL* Display Modes
- Supports NTSC and PAL
- Perfect for Programmers & DTP
- Originally $895.00

NOW $229.00

SALE

A2630 Accelerator

- 68030 25Mz
- 68882 Math Co 25Mz
- 4 Megabytes of 32 Bit RAM
- 1 Year Warranty by Commodore
- Fully DOS 2.0 Compatible
- Originally $895.00

NOW $559.00

DKB 2632 Board

- For CBM A2630 Accelerator
- 4 Mb Expandable up to 112 Mb
- All 32 bit memory

NOW $429.00
OR
BOTH for $969.00

Amiga Chips & RAM Chips

SIMMS	Call
8520 CIA chip	$11.00
2.04 ROM chip only	Call
Denise 8362 chip	22.00
Paula 8364 chip	23.00
Kickstart 1.3 ROM	26.00
Motorola 68030 RC CPU 50Mz	199.00
Motorola 68882 Math Co 50Mz	139.00
Both Above Motorola Items	299.00

We also stock a complete inventory of Game Software... CALL

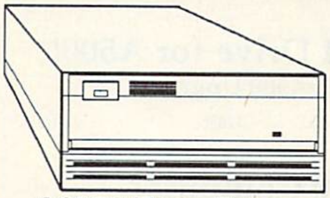
AMIGAS

A600 Computer	**$369.00**
A600 w/85Mb HD	**659.00**
A570 CD-ROM	**399.00**
CDTV	**579.00**
1084S Monitor	**279.95**
A2386 SX *NOW 25Mz* Bridgeboard	**689.00**

A2000, Toaster & Other Configurations are available

The Ultimate Backup System

Secure Your Data NOW



We know how precious your valuable data is to you. But, for many, backing up their Hard Drive is a real nightmare, often to the point where backups simply aren't made. Don't let this happen! Save time and boxes of floppy disks with the A3070 Tape Drive.

A3070 Tape Drive

- **BRAND NEW**
- **150 Megabyte capacity**
- ***FAST* - 3 Megs/minute**
- **Self contained and movable**
- **Internal Power Supply**
- **Attach to external SCSI port**
- **1 Year Warranty by CBM**
- **Originally sold for $1095.00**

NOW $349.00

Ami-Back 2.0 ***$42.00***
Quarterback 5.x ***$47.00***

Maxell 6150 Tapes

- **A3070 Compatible**
- **150 Megabyte Capacity**

NOW $21.95
4 or More $19.95 each

EURO MAGS

Amiga Format, Amiga Power, Amiga Computing, CU Amiga, Amiga Games, Amiga Action, Amiga User International, *Amiga Force, *Amiga Shopper, *Public Domain

Magazine w/Disk - $10. each
Magazine w/out Disk - $6. each
*No Disk Available

Ask about our subscription plan to receive your favorite Euro Mag each month without delay & without having to call.

Motherboards

A500 w/swap-All Revs	$150.00
A2000 w/swap-Rev 6 or above	225.00
A2000 w/swap-Rev 3.9 to 4.5	400.00
A2000 Rev 6.X Motherboard	549.00
A3000 25Mz w/swap	489.00

Amiga DOS 2 Upgrades

DOS 2.1 Upgrade Kit	***$86.00***
2.1 Enhancer for 2.0 Owners	47.00
A2620/A2630 Eprom Kit	35.00
DKB MChip board w/2Mb Agnes	269.00
Fatter Agnes 1 Mb chip	45.00
Multi-Start 2 Rev 6A	49.00
Super Denise 8373 chip	34.00
Super Agnes 2 Mb chip	78.00
Kick Back ROM switcher	35.00

NEW

High Density Floppy Drives

- Up to 1.76 Mb storage
- 880K Compatible
- Use as 1st or 2nd drives
- For A2000 & A3000 Only
- For DOS 2.04 or Higher

Call for Pricing

Productivity Software

Ami-Back Tools	$55.00
AMOS USA	77.00
CrossDOS 5 w/CrossPC	41.00
Final Copy 2	97.00
Pagestream	199.00
Pro Page	179.00
Pro Write 3.3x	65.00
S-Base Personal 4	105.00
Superbase Pro 4	189.00

Graphics Software

Art Department Pro	$199.00
Art Expression	175.00
Cinemorph	119.00
Deluxe Paint IV 4.1	115.00
Disney Animation Studio	50.00
Imagine 2.0	259.00
Morph Plus	185.00
Pro Draw 3.0	125.00
Scala Multimedia 2000	289.00
Toaster Vision	149.00

And Many More In Stock

OUR POLICIES

No waiting for your orders to ship. Orders in by 2PM go out the same day. International orders are shipped by Air Parcel Post or DHL. Domestic orders are shipped UPS.
• All orders are subject to credit card verification •

VISA MasterCard DISCOVER

Supplies are limited and on a first-come first-serve basis. We accept Visa, Master Card, and Discover. We also ship COD, accepting Cash, Certified Check, or Money Order. Software and accessories shipping is $3.00 for first item and $1.00 for each additional. Hardware shipping is $5.00 for the first item and $2.00 for each additonal. Monitors are $10.00 to ship. Amiga 600 computers are $12.00 to ship. COD add $4.00. Minimum COD order is $40.00. Canadian, APO, & International orders are welcome. We will bill only for actual shipping charges & insurance at time of order.

TENEX Computer Express

Your Amiga Source

We Carry a Complete Line of Amiga Hardware!

A2000! A3000! More!



Lowest Prices in the U.S.! Call for pricing on standard or custom systems.

CALL FOR LOWE$T PRICE!

The New Amiga 600!

Commodore® AMIGA®



CALL FOR LOWE$T PRICE AND FREE SOFTWARE DETAILS!

A570 CD-ROM Drive for A500!

Includes FREE A500 Upgrade!

A570 CD-ROM Drive	C12825	$CALL

Amiga 500 Computer

TENEX sells more Amiga 500s than anyone else in the country! Call for lowest prices & special software bundles!

AMIGA SYSTEM UPGRADES

GVP A500 IMPACT SERIES II HARD DRIVES		
A500-HD8+0MB/120Q II	C10039	638.00
GVP A2000 IMPACT SERIES II HARD CARDS		
A2000 Barecard	93667	219.00
A2000-HC8+0MB/120Q II	C10059	509.00
GVP IMPACT SERIES II HARD DRIVE/ HARD CARD MEMORY EXPANSION		
1MByte SIMM	93693	39.99
GVP A530 TURBO W/ 120MB HARD DRIVE	C12376	1049.99
TENEX INTERNAL A500 HARD DRIVES		
TENEX 105MByte Kit	95724	CALL
ROCTEC 3.5" EXTERNAL FLOPPY DRIVE.		
3.5"External Drive	89276	94.95
DATAFLYER 500	99062	139.95
DATAFLYER 2000	99058	79.95
DATAFLYER RAM, 2MBYTE	99080	179.95
DATAFLYER RAM, 4MBYTE	99091	259.95
DATAFLYER RAM, 8MBYTE	99109	399.95
1MBYTE x 8 x 80 SIMMs	93693	39.99
BIGFOOT POWER SUPPLY	92898	94.95
SUPRADRIVE 500XP HARD DRIVES		
52MByte with 1MB	96445	465.00
52MByte with 2MB	96455	545.00
120MByte with 2MB	96643	665.00
240MByte with 2MB	96653	909.00
SUPRADRIVE 500XP UPGRADES.		
512KByte kit	97255	23.95
2MByte kit	97263	99.95
TRIFECTA 500 LX	C13566	CALL
TRIFECTA 2000 LX	C13578	CALL
WORDSYNC SCSI INTERFACE		
WordSync interface	88673	99.95
DKB 2632 32 BIT MEM EXP.	C13812	459.00
HARD DRIVE INTERFACE FOR A1000	C13533	174.99

DATAFLYER *Express*



DATAFLYER EXPRESS

The DataFlyer Express upgrades the Amiga 500 with a hard drive and up to 8 MBytes of memory. Just add any 3.5 inch low profile hard drive and SIMM memory modules. The controller comes in either SCSI, IDE or a SCSI/IDE combination hard drive controller. Includes all software, hardware and cables, auto-boosting, auto install, DB25 SCSI pass thru (SCSI only), and drive and power LED display. Also, compatible with the following: Floptical, CD ROM, Amax II (SCSI only), Syquest (SCSI only), Power PC and KCS AT emulator (SCSI/IDE), and BaseBoard. (Note: Hard drive not included).

CALL FOR LOWEST PRICE AND PRODUCT DETAILS!

HARD DRIVES

We carry a complete selection of SCSI and IDE Hard Drives from Quantum and other fine manufacturers. Call for latest models and lowest prices!

MODEMS

GVP PHONE PAK	C10989	429.00
SUPRAMODEM 2400	96667	79.95
Modem Serial Cable	A42447	12.95
SUPRAMODEM 2400+	96678	116.95
SUPRAMODEM 2400ZI+	96688	119.99
SUPRA FAX/MODEM EXTERNAL		
FAX/Modem, v.32	97149	239.95
FAX/Modem, v.32bis	97154	309.95
PLATINUM ONLINE	88486	39.95

AMIGA INPUT DEVICES

BEETLE MOUSE W/PAD	94074	34.95
BOING! MOUSE W/PAD	94089	99.95
FLEXIDRAW 184-A LIGHT PEN	82037	89.95
ROCTEC AMIGA MOUSE	95252	24.99
SWIFTY MOUSE	C10653	24.95
THE WIZ TABLET	96489	239.99
TRIPLETRACK TRACKBALL	96994	49.95
ZOOMER/YOKE JOYSTICK	C10695	59.95

GVP ACCELERATOR BOARDS

G-FORCE 030— 25MHz 68030 ACCELERATORS		
Combo030-25/25/1/0	99133	599.00
Combo030-25/25/1/120	99152	929.00
G-FORCE 030— 40MHz 68030 ACCELERATORS		
Combo030-40/40/4/0	99175	999.00
Combo030-40/40/4/120	97545	1349.00
G-FORCE 030— 50MHz 68030 ACCELERATORS		
Combo030-50/50/4/0	97568	1469.00
Combo030-50/50/4/120	97589	1799.00
G-FORCE 040— 28MHz 68040 ACCELERATORS		
G-Force3000-040/28/2	99124	1799.00
G-FORCE ACCELERATOR RAM UPGRADES		
1MByte, 60ns SIMM	C10076	89.95
4MByte, 60ns SIMM	C10089	239.95
1MByte, 40ns SIMM	C10092	219.95

MEMORY & ACCELERATORS

A601 EXPANSION W/ CLOCK	C13508	49.95
A601 EXPANSION	C10908	25.95
BLIZZARD BOARD	C10908	219.95
INSIDER II	C13809	180.00
MEGA MIDGET RACER	C10998	399.95
PROGRESSIVE 040/500+4MB	C10339	CALL
SUPRARAM 500 RX with 1MByte		
500 RX w/1MByte	94016	124.95
1MByte Upgrade Kit	97312	64.95
SUPRARAM 500 RX with 2MByte		
500 RX w/2MByte	94029	185.95
2MByte Upgrade Kit	97278	99.95
SUPRARAM 2000		
with 0MByte	89048	109.95
with 2MByte	88683	165.95
with 4MByte	88691	224.95
VECTOR	C12606	CALL

AMIGA ENHANCED CHIP SETS

FAT AGNUS, 2MBYTE		
Fat Agnus 8372B, 2MByte	98564	79.95
Fat Agnus 8372B/MegAChip 2000	C10013	289.00
FAT AGNUS, 1MBYTE	98553	59.95
SUPER DENISE 8373	98572	44.95
CHIP PULLER	C10249	14.95

EMULATORS

A-MAX II PLUS	C12654	340.00
POWER PC BOARD	96620	269.95
PC/286 MODULE for GVP	97713	229.99
ATonce+ PC/AT EMULATOR	A70756	319.00

DATA STORAGE

SYQUEST DRIVES FOR AMIGA & MAC		
44MByte Internal Drive	A60578	329.00
88MByte Internal Drive	A67257	499.00
44MByte External Drive	A63425	429.95
88MByte External Drive	A67222	599.95
44MByte Cartridge	A60583	79.95
88MByte Cartridge	A62872	109.95
20MBYTE FLOPTICAL DISK DRIVE		
Internal Floptical Drive	98668	499.99
External Floptical Drive	98659	599.99
20MByte Floptical Diskette	98160	19.99

GRAPHICS SOFTWARE



Special Publishing Bundle $219

PROFESSIONAL PAGE 3.0	98154	169.99
PROFESSIONAL DRAW 3.0	C12064	129.00
Page3.0/Draw 3.0 Bundle	C12072	219.00
ANIMFONTS 1	96588	29.95
ANIMFONTS 2	96724	29.95
ANIMFONTS 3	96738	29.95
ART DEPT. PROFESSIONAL	92135	178.95
Conversion Kit	92149	52.95
BUSINESS CARD MAKER	96039	39.95
COMIC SETTER	81815	41.95
DESIGN WORKS	94439	79.95
THE DIRECTOR V. 2.0	90147	79.95
GOLD DISK TYPE		
Designer Pack	90067	34.95
Decorative Pack	90072	39.95
HEADLINES 1	96554	44.95
HEADLINES 2	96568	42.95
IMAGINE 2.0	90166	269.00
MOVIE SETTER	81824	41.95
OUTLINE FONTS	94390	129.95
PAGESTREAM 2.2	C10679	159.95
PERFORMER 2.0	90476	99.95
SAXON PUBLISHER 1.1	94069	169.99
SCULPT/ANIMATE JR	84365	99.95
SCULPT/ANIMATE 4D/PRO	84376	319.95
SOFTCLIPS		
Classic	96492	44.95
People	96503	44.95
Collectors	96513	44.95
Animal	96527	44.95
SPECTRA COLOR	94607	64.95
STARFIELDS	96545	34.95
SUBHEADS	96573	42.95
VISTA PRO	94118	57.95
California Scenery Disk	94127	48.95
VISTA 1.2	90466	37.95
ZUMA FONT PACK 1-2-3	97513	59.95
ZUMA FONT PACK 4-5-6	97525	59.95

AMIGA VIDEO HARDWARE

AMIGA 520 VIDEO ADAPTER	79283	34.95
CHROMAKEY +	C12786	340.00
CINEMORPH	C10973	99.99
DCTV	91689	399.00
DIGITAL EDIT MASTER	C13427	2299.00
DIGI-VIEW MEDIASTATION	97387	151.99
DMI RESOLVER DMI-010-A	C10823	1099.00
DMI RESOLVER DMI-010-C	C10832	1999.00
FLICKER-FREE VIDEO 2	94457	234.99
FIRECRACKER 24	97281	819.95
G-LOCK	C13821	439.00
IMPACT VISION 24		
Impact Vision 24	95867	1879.00
Optional adapter	95877	49.99
KITCHEN SYNC	94366	1595.00
OPALVISION	C11916	999.99
PERSONAL TBC II	92322	CALL
PERSONAL TBC III	C13009	CALL
PLAYMATION	C13779	330.00
ROCGEN PLUS	94183	299.99
ROCKEY	C11693	349.00
SPECTRUM FRAME GRABBER	C11448	449.00
VIDEO TOASTER 2.0		
Video Toaster	96598	2099.00
Instructional Video	94693	19.95
VIDEO BLENDER	95805	995.00
VIVID 24	C13436	2699.00

AMIGA VIDEO SOFTWARE

ALTERIMAGE	C11381	99.99
BREAD & BUTTER FONTS	95944	69.95
CALIGARI 24	C13760	260.00
CINNAMON TOAST FONTS	95951	69.95
DELUXE PAINT IV	94997	107.95
DELUXE PAINT IV AA	C13277	124.99
DELUXE VIDEO® III	79452	99.95
GFX CAD (FullVersion)	C11639	264.99
GFX CAD (Upgrade)	C11642	129.99
MORPH PLUS	C13149	200.00
PRO VIDEO GOLD	88186	119.99
VIDEO TOASTER SOFTWARE UPGRADE 2.0	C10139	339.00
VIDEO DIRECTOR	96170	137.95

AMIGA UTILITIES

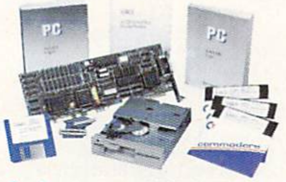
AMI-ALIGNMENT SYSTEM	84884	29.95
AMI-BACK v2.0	94057	44.95
AMIGADOS 2.04		

AMIGA is a registered trademark of Commodore Amiga Inc., NOTE: Due to publishing lead-times, product prices and specifications are subject to change without notice.
*APO, FPO, AK, HI, CN, VI, GU, and foreign orders are subject to additional shipping charges.

1-800-PROMPT-1

Lowest Price Guarantee!!

IBM Compatibility for Only



$149.99

Includes:
- IBM-compatible Floppy Disk Drive
- 512K RAM
- MS-DOS software

BRIDGEBOARD.
By popping the Bridgeboard into an A2000 expansion slot, you add IBM-compatible features to your Amiga— while retaining all of the Amiga's advanced abilities. The board features an 8088 microprocessor, 512KByte RAM, a PC-XT BIOS, a 5.25" 360KByte floppy drive, an external floppy drive connector, and a socket for a math coprocessor. These IBM-compatible features allow you to run thousands of MS-DOS software programs at the same time as you're running your Amiga applications.

Bridgeboard XT	84706	149.99

Learn to Play the Piano the Easy Way!



$319.99

MIRACLE PIANO TEACHING SYSTEM.
A revolutionary learning method that conquers traditional teaching hurdles by making studying fun and productive. Features include an electronic piano keyboard capable of synthesizing over 100 digitized instruments, 25-to 25-pin cable, utility software, an AC adapter, earphones, and output jacks so you can use it with your stereo. Use the synthesizer as a stand-alone instrument without the computer platform. (Note: A1000 needs a one-to-one gender changer). From Software Toolworks.

Miracle Piano	99026	319.99

Run C64 Software on Your Amiga! *Only $39.95*

A64 PACKAGE.
With the A64 emulator package, you can connect your 1541 or other Commodore disk drive to your Amiga 500 or 2000 and run your C64 software on the Amiga! Some software which incorporates disk "fast load" may not work, and the speed of operation of some games may change depending on the speed of your Amiga. Package includes both disk software and special adapter. From Questronix.

A64	C10550	39.95

A500/A2000	96335	89.95
A3000	97707	34.95
ASSEMPRO	83926	64.95
B.A.D	89345	29.95
DISKMASTER II	95936	39.95
DOS-2-DOS	98403	31.95
GIGAMEM	C13798	99.99
IMAGEFINDER	94257	41.95
KICKBACK	C11420	39.99
MAVERICK, V4	89601	32.95
MICROFICHE FILER +	94095	119.95
QUARTERBACK	C10964	49.95
RAWCOPY V1.3k	87466	34.95
SAS/C COMPILER	94408	199.95
VIRTUAL REALITY STUDIO 2.0	96193	59.95
VIRUS PROTECTOR	95270	39.95

AMIGA PRODUCTIVITY

ADVANTAGE	94105	124.95
DISTANT SUNS 4.0	94599	49.95
DYNACADD V. 2	C12714	649.99
EXCELLENCE 3.0	89330	99.99
FINAL COPY II	C12807	99.99
GOLD DISK OFFICE	90052	119.95
HOTLINKSV.1.1	C13526	46.99
THE KFS ACCOUNTANT 2.0	82594	189.95
MAXIPLAN 4	C11379	124.99
MIGRAPH OCR	C14189	260.00
PHASAR	C11079	49.99
PROFESSIONAL CALC	96151	189.95
PROPER GRAMMAR	94440	57.95
PROWRITE™ 3.3	88222	64.99
PROVIDEO CG II	C11391	111.99
SUPERBASE PERSONAL II	C14203	79.99
SUPERBASE 4 PRO	C14194	180.00

PRESENTATION SOFTWARE

SCALA MULTIMEDIA	C14301	CALL
SCALA 500— HOME TITLER	97001	119.95
THE ANIMATION STUDIO	90126	49.99
AMIGAVISION	89661	99.95
AMIGA CLIPS, Vol. 1:Sound Effects	91951	24.95

AMIGA MUSIC AND SOUND

ALTEC LANSING MULTIMEDIA SPEAKER SYSTEM	C11743	299.00
AMIGA ADAPTER (for C11743)	C12055	7.99
AMAS V. 2.0 Includes MIDI interface	86334	89.99
BOOM BOX	C13443	36.99
POWERED STEREO SPEAKERS	97290	34.95
DIGITAL SOUND STUDIO	97302	84.99
MIDI INTERFACE	C10669	29.95
MIRACLE PIANO TEACHING SYSTEM Miracle System	99026	319.99
PERFECT SOUND 3.0	86370	69.95
TIGER CUB	89721	74.95

ENTERTAINMENT SOFTWARE TOP ALL-STAR GAMES

ATOMINO	98786	29.99
AWESOME	91098	27.95
THE KILLING GAME SHOW	88054	26.95
LEMMINGS	92226	27.95
OH NO! MORE LEMMINGS	96818	29.95
Add-on disk	95686	24.95
POWERMONGER	90767	31.95
POWERMONGER CLUEBOOK	92557	10.95
WONDERLAND	92375	34.99

ENTERTAINMENT SOFTWARE SPORTS

4-D BOXING	98954	31.95
CARL LEWIS	C11065	29.99
GREENS	98066	41.95
HOLE-IN-ONE MINI GOLF	84489	22.95
JOHN MADDEN FOOTBALL	98939	31.95
LINKS	97799	29.95
Bountiful Golf Course	C11204	16.99
Firestone Country Club	97808	16.95
MICROLEAGUE BASEBALL: The Manager's Challenge	98099	24.95
OVER THE NET!	96016	24.95
RED ZONE	C11082	29.99
SLIDERS	C12451	32.99
TONY LARUSSA ULTIMATE BASEBALL	93873	9.99
WORLD CIRCUIT	98058	36.95

ENTERTAINMENT SOFTWARE ADVENTURE

AD&D CHAMPIONS OF KRYNN: Dragonlance Fantasy Role-Playing V.1	88879	32.95
AD&D: Dark Queen of Krynn	C10751	32.95
AD&D: Death Knights of Krynn	94156	31.95
AD&D: Gateway to the Savage Frontier	97787	32.95
AD&D: Pools of Darkness	95309	44.95
AD&D: Treasures of the Savage Frontier	C11109	32.99
AGONY	98968	29.95
AMERICAN GLADIATORS	C10780	24.95
AMNIOS	94659	32.95
ARMOUR-GEDDON	98979	29.99
AQUAVENTURA	C11055	29.99
BARBARIAN II	94669	29.99
BATTLE SQUADRON	C13396	9.99
BEAST II: SHADOW DEEPENS	90435	34.95



Undertake challenging quests with four levels of action!

BEAST III: OUT OF THE SHADOW	C12351	33.99
BIRDS OF PREY	95074	31.95
BLACK CRYPT	96263	31.95
BUZ ALDRIN	C13213	39.99
CARTHAGE	98985	29.95
CASTLES	94877	34.95
COMBAT AIR PATROL	C13150	32.99
CONQUEST OF JAPAN	C13490	42.99
CREEPERS	C13165	34.99
CRIME DOES NOT PAY	C12500	32.99
CRUISE FOR A CORPSE	C11124	34.99
DAEMONSGATE	99037	39.95
DARKSEED	C13787	39.99
DEMONIAK	C12512	32.99
DESERT STRIKE	C13304	31.99
DISCOVERY COLUMBUS	C13483	42.99
ELF	96266	34.95
ELVIRA II: JAWS of CERBERUS	95847	41.95
EYE OF THE BEHOLDER II	96309	39.95
FANTASTIC VOYAGE	98366	27.95
GLOBAL EFFECT	C10760	32.95
THE GODFATHER	95648	30.95
GODS	C11159	28.99
GUY SPY	95427	29.99
HARPOON CHALLENGE PAK	95117	57.95
HARPOON BATTLESET #4	95102	27.95
HEIMDALL	C12387	19.99
HOI	C13259	24.99
HUMANS	C10770	26.95
KINGS QUEST V	95233	34.95
LEANDER	95698	29.99
LEGEND OF KYRANDIA	C12401	39.99
LORDS OF TIME	C13262	29.99
LOST TREASURES OF INFOCOM	C11340	49.99
MEGAFORTRESS: FLIGHT OF THE OLD DOG	95096	37.95
MIGHT & MAGIC III	96297	39.95
MURDERS IN SPACE	C12475	32.99
MYTH	C10005	18.95
NAM	C12530	32.99
OMAR SHERIF ON BRIDGE	C13229	36.99
ORK	95701	29.99
OVERLORD	92381	30.95
PALADIN II	C13474	42.99
PIT-FIGHTER	99001	23.95
THE PERFECT GENERAL	98779	36.95
THE PLAGUE	C13410	7.99
POPULOUS II	96271	38.95
POPULOUS II CHALLENGE	C12340	22.99
PROPHECY OF THE SHADOW	C12226	39.99
POWERMONGER: WWI	95062	19.95
RAILROAD TYCOON	C10806	34.95
RISE OF THE DRAGON	98768	36.99
ROAD RASH	C13289	31.99
ROBOCOP 3-D	C10739	34.95
SECRET OF MONKEY ISLAND	92597	37.95
SHADOWLANDS	C12545	32.99
SILENT SERVICE II	98792	37.95
STARFLIGHT 2	95056	31.95
SUPER SPACE INVADERS	98995	27.95
SWORD OF SODAN	C13402	9.99
TENGEN ARCADE HITS	C11147	26.99
THIRD REICH	C10795	29.95
TITUS THE FOX	C13173	34.99
TURRICAN	C13384	9.99
ULTIMA VI: False Prophet	96042	42.95
UNREAL	C10292	7.95
VIKINGS	C10700	24.95
WIZARDRY: Crusaders of the Dark Savant	97823	46.95
WOLF PACK	C10106	14.95

ENTERTAINMENT SOFTWARE FAVORITE CHARACTERS

THE AMAZING SPIDER-MAN	91324	19.95
ARACHNOPHOBIA	93899	9.99
CONAN	95244	21.95
DICK TRACY	93907	9.99
DUCKTALES: Quest for Gold	91491	9.99
HILL STREET BLUES	C10717	24.95
HOME ALONE 2	C13377	32.99
LAST NINJA 3	95390	22.95
L. S. LARRY 2: LOOKING FOR LOVE	95447	14.99
L. S. LARRY 3: PASSIONATE PATTI	95453	36.99
MONTY PYTHON'S FLYING CIRCUS	C12368	13.99
STAR TREK	C13237	39.99
T.M.N.T. ARCADE	95604	29.95
WHEEL OF FORTUNE/VANNA	99040	24.95

ENTERTAINMENT SOFTWARE STRATEGY GAMES

AIR SUPPORT	C11042	29.99
BATTLE CHESS	87568	29.95
BLACKJACK ACADEMY	83027	16.95
CASTLES II	C13243	34.99
CLUE MASTER DETECTIVE	87413	17.95
CYBER EMPIRES	C13292	31.99



DUNE	C12392	39.99
LIGHT CORRIDOR	C12482	32.99
MONOPOLY	84552	29.95
RISK	85889	29.95
SIMANT	98029	34.95
SIMCITY	82879	32.95
SIMCITY TERRAIN EDITOR	87877	9.95
SIMEARTH	C11857	41.95
TETRIS	83835	26.95
TRUMP CASTLE II	96020	29.95

ENTERTAINMENT SOFTWARE SIMULATION GAMES

A-TRAIN	C13362	44.99



ASHES OF EMPIRE	C13467	47.99
CIVILIZATION	C11092	49.99
CRAZY CARS 3	C12463	32.99
EAGLES RIDER	C12522	32.99
FALCON	84284	31.95
Mission Disk I	91356	15.95
Mission Disk II	91367	19.95
FERNGULLY COLORING BOOK	C11220	19.99
FLIGHT SIMULATOR II	83764	32.99
MYSTICAL	C12495	32.99
SHUTTLE	96138	32.99
SUPER OFF ROAD	92405	17.95
SCENERY ANIMATOR 2.0	C11461	59.99
TRACON II	92678	39.99
UTOPIA	C11187	32.99

EDUCATIONAL SOFTWARE

ALGEBRA I	C10948	34.95
AMY'S FUN-2-3	C11581	29.99
ARITHMETIC	C10934	34.95
BEACON TEACHES TYPING	79477	32.95
BRIDGE	96218	24.95
DINOSAURS ARE FOREVER	83134	14.95
LINKWORD SPANISH	96237	19.95
MAGIC POCKETS	C11162	14.99
PHUNNYPHONEMES	C12668	26.99
SCRABBLE	84567	17.95
STUDYWARE FOR THE SAT	C10952	34.95
WHERE IN THE WORLD IS CARMEN SANDIEGO?	85229	29.99
WHERE IN EUROPE IS CARMEN SANDIEGO?	89179	29.99
WHERE IN TIME IS CARMEN SANDIEGO?	91005	29.99
WHERE IN THE USA IS CARMEN SANDIEGO?	86677	29.99
WORLD ATLAS	C10925	36.95

MULTIMEDIA SOFTWARE

MIRAGE	C10973	Call
MULTIMEDIA fx	C11024	39.95
SPECTRUM fx/VOCODER fx	C11002	39.95
STARS fx	C11015	39.95

VISA MasterCard DISCOVER

Shipping, Handling, Insurance

Order Amount	Charge
less than $19.99	$4.95
$20.00-$39.99	$5.95
$40.00-$74.99	$6.95
$75.00-$99.99	$7.95
$100.00-$149.99	$9.95
$150.00-$299.99	$10.95
$300.00-$499.00	$12.95
$500.00-$699.99	$19.95
$700.00-$999.99	$27.95
$1000 & Over	2.8% of Order

Circle 22 on Reader Service card.

Manufacturers'/Distributors' Addresses

Accolade
5300 Stevens Creek Blvd.
San Jose, CA 95129
408/985-1700

Activision Studios
11440 San Vincente Blvd., Suite 300
Los Angeles, CA 90049
310/207-4500

Allen Avionics
224 E. Second St.
Mineola, NY 11501
516/248-8080

American Software Distributors
502 E. Anthony Drive
Urbana, IL 61801
217/384-2050

ASDG
925 Stewart St.
Madison, WI 53713
608/273-6585

Asimware Innovations
101 Country Club Dr.
Hamilton, Ont.
L8K 5W4 Canada
416/578-4916

Axiom Software
1221 E. Center St. SE
Rochester, MN 55904
612/882-8136

Better Concepts
22 N. Main St., Suite 393
New City, New York 10956
800/25-AMIGA
914/639-5095

BIX – General Videotext Corp.
1030 Massachusetts Ave.
Cambridge, MA 02138
800/227-2983
617/354-4137

Blue Ribbon Soundworks, The
1293 Briardale Lane NE
Atlanta, GA 30306
404/377-1514

Boone Technologies
PO Box 15052
Richmond, VA 23227
804/264-0262

Centaur Development
PO Box 4400
Redondo Beach, CA 90278
310/542-2226

Central Coast Software
A division of New Horizons
206 Wild Basin Rd., Suite 109
Austin, TX 78746
512/328-6650

CeV Design
61 Clewley Rd.
Medford, MA 02155
617/391-9224

Cloanto
Distributed by Centaur Dev.

Commodore Business Machines
1200 Wilson Drive
West Chester, PA 19380
215/431-9100

CompuServe
5000 Arlington Center Blvd.
Columbus, OH 43220
614/457-8600
800/848-8199

Consultron
11280 Parkview
Plymouth, MI 48170
313/459-7271

DevWare
12528 Kirkham Court, Suite 11-A17
Poway, CA 92064
619/679-2825

DigiPrint Inc.
PO Box 13016
Richmond, VA 23225
804/560-1769

Digita
Distributed by American Software

Digital Creations
2865 Sunrise Blvd., Suite 103
Rancho Cordova, CA 95742
916/344-4825

Disc Company, The
11440 San Vincente Blvd.
Los Angeles, CA 90049
310/207-4500

Dr. T's Music Software
124 Crescent Rd., Suite 3
Needham, MA 02194
617/455-1454

duBois Animation
1012 N. Chartrand, #F
Edmond, OK 73034
405/348-4670

Electronic Arts
1450 Fashion Island Blvd.
San Mateo, CA 94404
415/571-7171
800/245-4525

Fred Fish
Catalog Disk Update
1835 E. Belmont Drive
Tempe, AZ 85284

Free Spirit Software
720 Sycamore St.
Columbus, IN 47201
812/376-9964

GEnie
401 North Washington
Rockville, MD 20850
800/638-9636

Gold Disk
5155 Spectrum Way, Unit 5
Mississauga, Ont.
Canada L4W 5A1
416/602-4000
800/GOLD DSK

Grafx Computing
6680 Wiltsie Rd.
Panama, NY 14767
716/782-2468

Great Valley Products (GVP)
600 Clark Ave.
King of Prussia, PA 19406
215/337-8770

Hollyware Entertainment
13464 Washington Blvd.
Marina Del Rey, CA 90291
310/822-9200

HyperMedia Concepts
5200 Washington Ave., Suite 226
Racine, WI 53406
414/632-3766

ICD
1220 Rock St.
Rockford, IL 61101
815/968-2228
800/373-7700

Impressions Software
7 Melrose Drive
Framingham, CT 06032
203/676-9002

INOVAtronics
8499 Greenville Ave.
Suite 209B
Dallas, TX 75231
214/340-4991

InterACTIVE Digital Devices Inc.
2238 Nantuckett Court
Marietta, GA 30066
404/516-0248

Interactive MicroSystems
9 Red Roof Lane
Salem, NH 03079
603/898-3545

JumpDisk
1493 Mountain View Ave.
Chico, CA 95926
916/343-7658

Konami
900 Deerfield Pkwy.
Buffalo Grove, IL 60089
708/215-5100

Micro-Pace Distributors
Commercial Park West, Suite C
Champaign, IL 61821
217/356-1885

Micro-Systems Software
12798 Forest Hill Blvd., Suite 202
West Palm Beach, FL 33414
407/790-0770

Moonlighter Software
3208-C E. Colonial Drive, Suite 204
Orlando, FL 32803
407/384-9484

MVP Software
PO Box 458
Aliquippa, PA 15001
412/378-0411

New Horizons Software
206 Wild Basin Rd., Suite 109
Austin, TX 78746
512/328-6650

New Media Corp.
15375 Barranca, B-101
Irvine, CA 92718
714/453-0100

Ocean Software
Distributed by Electronic Arts

Octree Software
1955 Landings Dr.
Mountain View, CA 94043
415/390-9600

Portal Communications Co.
20863 Stevens Creek Blvd.,#200
Cupertino, CA 95014
408/973-9111

Premier Software
PO Box 3782
Redwood City, CA 94064
415/593-1207

Pre'spect Technics
B 53, Rte. Lotbinierre
Dorion, Que.
J7V 2K0, Canada
514/944-9696
514/424-5596

Progressive Peripherals & Software
464 Kalamath St.
Denver, CO 80204
303/825-4144

Psygnosis
29 St. Mary's Court
Brookline, MA 02146
617/731-3553

ReadySoft
30 Wertheim Court, Unit 2
Richmond Hill, Ont.
Canada L4B 1B9
416/731-4175

SoftWood Co.
PO Box 50178
Phoenix, AZ 85076
602/431-9151

SunRize Industries
2959 S. Winchester Blvd., Suite 204
Campbell, CA 95008
408/374-4962

US Gold
Distributed by Accolade

Virgin Games
18061 Fitch Ave., Suite C
Irvine, CA 92714
714/833-8710

Virtual Reality Laboratories
2341 Ganador Court
San Luis Obispo, CA 93401
805/545-8515

Vortex
Falterstrasse 51-53
D-7101 Flein, Germany
49/7131-5972-0
US tech support office:
3835 Richmond Ave., Suite 138
Staten Island, NY 10312
718/967-1509
(also distributed by MicroPace)

WordPerfect Corp.
1555 N. Technology Way
Orem, UT 84057
801/225-5000

Zeppelin Games
distributed by Natural Solutions
280 Hilltop Ln.
Cinncinnati, OH 45215
513/522-9604 ■

AMIGA WORLD Tool Chest

The AmigaWorld ToolChest, a quality line of low-cost software, presents powertools for your Amiga. By purchasing this software you receive unmatched versatility, usability, and best of all, you support the independent Amiga developer. The "TSP" disk series are collectively grouped by theme for your easy access. The "RK" anthology are registered versions of the cream of the crop in shareware titles. The "TC" line, our premium disk series, is also conveniently available in our money-saving subscription offer.

Disks	Price
30+	3.45
20-29	3.95
11-19	4.45
1-10	5.95

100% Satisfaction Guaranteed

P51: **The Intrepid** You control a tank in the frozen arctic trying to rescue hostages.
P50: **Grinder** This useful utility will convert between the following graphics formats: , Ham-E, TIFF, Targa, PCX, Neochrome, Degas, GIF *and* JPeg!
P49: **Moria** This is a vast adventure game that will require hours of dedicated adn-ng to crack. You must traverse an absolutely huge world/dungeon to defeae forces evil. 1 Meg, harddrive installable.
P48AB: **The A-64 Package** This is a complete Commodore 64 emulator. ulates saphics...everything (no fast loaders or timing-sensitive software.) Works on Amiga with 1 meg. Two disks, counts as two.
P47: **Chemesthetics** This program will generate calotte models (3D full-color IFF tecules. Quite beautiful pictures of even the nastiest molecules.
P46: **Drafting** MCad and Plans are both object-oriented drawing/drafting programs uctured graphics) with all the pribjects you need to create any object. Landscape is AD (Computer Aided Design) program for laying out landscapes; once laidout, the nputer wilnerate a stylized 3D representation of your landscape.
P45: **AmigaDOS Replacement Project (ARP)** This is the result of a very bitous project to completely replace all of the AmigaDOS c: commands (DIR, LIST, SIGN, INFO, etc.)with more powerful, feature-filled programs. These programs are y compatable with their Workbench 1.3 counterparts, but also offer many more abilities--including greatly enhancd wildcard support and more help for each com-nd.
P44: **MechFite** is a role playing game where you control a giant robot and explore rlds, buy or find items, fight against other robots and aliens you are also required to ll some tasnd complete missions.
P42: **3D Master** Explore the world of 3D modelling with this high-powered software. eate realistic raytraced 3D images. 3D Master is perfect to get your feet wet in 3D. It require some experimentation to get the most out of it. Req. 1 MB
P41: **Sealance** Go on patrol in your nuclear Trident submarine and clear the seas the vermen that pollute it. A complete simulation with all tactical weapons and ensive systems.
P39AB: **Catacomb** A well done graphic dungeon adventure game. Discover the crets & treasures of the uderground maze and try to stay alive!
P38: **Virus Utilities** VirusX, KillVirus, Virus-Memory Killer, VK360 and ZeroVirusIII let you sleep at night knowing your Amiga is 1000% virus-free.
P37: **CheckBook Accountant** This program has full budgeting/transaction record- capabilities. This program turns the chore of balancing your checkbook into a 2 nute treat!
P36: **Animation** Two beautiful animations, Spigot and Watch. Both of these were ated with 3D animation programs and are truly beautiful and smooth.
P35: **HackLite** This is a dungeon-adventure game of the highest magnitude...an solutely huge world to explore that will task even the most hardened dungeon plorer for weeks on end!
P34: **MechForce** Any number of players can control up to 24 giant robots with ers, missiles, jump-jets to get you airborne to do battle in teams against each other against the computer...*highly* addicting!
P33ABCD: **Complete Guide to Programming the Amiga in "C"** This four disk features tutorials, sample programs and inside tips to the special programming eds of the Amiga. Four disks counts as three.
P32: **Classic Arcade Games** Defender and Missile Command--need we say re? Descender is a clone of the classic Tempest.
P31: **DataBases** Contains all flavors of databases. BBaseII is a highly Amiga-ed database, DataEasy is another powerful database. MagMan is specially signed to help you reference articles in magazines.
P30: **Educational** This includes WorldDataBase, DrawMap--which draws detailed ps of countries. WordGame, Metric Converter, Spell2--an ingenious spelling chal-ger. FastFacts--everything you always wanted to know about our Solar System.
P29ABC: **King James Bible** The complete text of the bible is included on this 3 k set (counts as 3) with printing and searching capabilities.
P28: **Bitmapped Fonts** This disk contains 67 fonts for the Amiga, all under 25 nts in size...a font for every occasion!
P27: **Octa-MED** This remarkable program doubles the sound capabilities of your iga from 4 channels of audio to 8! Almost completely identical to MED, this is a ly remarkable program.
P26: **Directory Utilities** Contains all of the best public domain and shareware file d disk utilities available for the Amiga, including UtilMaster, FileMan, M2DU, Sid and Master.
P25: **SpaceGames** Contains MoonBase a very graphically detailed lunar-lander me, SpaceWar-a two player (either in person or over the modem) space battle. bula is a 3D world you must defend..definitely commercial quality.
P24: **Printing Utilities** This disk contains a very nice Banner maker that will use AmigaDOS font with full-color printing. RobsLabelCreator will allow easy creating labels for your diskettes. PrintStudio allows easy printing of text/graphic images with al control over page numbering/titling, etc.
P23AB: **Tobias Star Trek** A graphic space adventure where you're the captain of ur own starship. Travel through the universe, stop the Romulans and Klingons and mplete your missions. Two disks, counts as two.



The Intrepid featured on TSP43

P22: **3D Objects** This disk contains 18 different vector-objects for use with Sculpt d Imagine. *Some* of the objects include: train engine, synthesizer keyboard, Amiga 00, space station.
P21: **Disk Duplicators** This disk contains all the best utilities to backup diskettes. luded are XCopyIII and NIB which will backup copy-protect programs. Also ludes SuperDuper which is an incredibly fast AmigaDOS copier. Freecopy will *nove* copy protection from many popular commercial programs.
P20: **Board Games** Includes Checkers, Dominoes, Clue, Jeopard and Monopoly. row away your dice and let your Amiga take care of the details...hours and hours of nily fun!
P19: **PacMan Classics** Contains Mazeman, Zonix and PacMan87--all great imple-ntations of the origional arcade classic.
P18: **MS-DOS Emulation** Contains PCTask and IBeM, two shareware IBM-MS s emulators for your Amiga. Also included are utilities to allow Amiga drives to d/write 720K format MS-DOS disks--Multidos and MSH.
P17: **Printer Drivers** This disk contains over 70 printer drivers for many popular nters.
P16: **Telecommunication** This disk contains two first-class modem programs, Comm and Access. This disk is for the beginner or expert telecommunicator, featur- all the popular communication protocols, including X, Y and Z-Modem. NComm s very advanced script capabilities for performing automated log-ins, downloads and loads.
P15: **MED** This disk contains the premier music package, MED (Musical EDitor). It l allow you to use digitized sound samples as your instruments and use them in your n songs. Its tremendous editing power makes MED more of a musical word-proces-. An extremely well-done program. Many commercial software companies use this ckage to create soundtracks for their entertainment programs.
P14: **Plotters** This disk contains several of the best mathematical plotting programs ailable for the Amiga. Includes AmigaPlot--a 3-dimensional mathematical function tter (pictured), Aplot2.0, and PlotXY

TSP13: Tetris Games This disk contains 6 flavors of the classic game "Tetris." Some have artificial intelligence, others a variety of play-styles/skill levels/number of players.
TSP12: ClipArt This disk contains several excellent bitmapped images for use in Desktop Publishing or similar programs.
TSP10: Fractals Scenery (pictured) will create realistic fractal landscapes. Genesis allows the creation of various landscapes with user-definable levels of complexity. Also included are various Mandelbrot generators, including TMandel, Mandel-Mountains and FracGen.
TSP9: Utilities #1 IconMeister—an Icon editor with a complete set of editing/painting tools. TJFormat—a disk formatting program that will format disks that AmigaDOS wont. ChartMaster—a graphing tool that allows you to generate and save different graphs in IFF format. Graph3D lets you visualize complex data in 3-D and save the results. StructGen lets you create gadgets, text, bitmaps and window structures and the program will automagically write the "C" source code for you. LabelMaker is a very easy to use, full featured label printer. DoublePrint fascilitates printing of text files on both sides of paper.
TSP8: Clipart Black & White and colorful clipart for a variety of needs including desk-top publishing/video. People, holiday related, school items, scrolls, food, monsters, fish, lobsters, symbols and lots more.
TSP7: 3D Vector Objects #2 Books, Early American telephone, barrels, gun, space-ships, lamps, trombone, bugle, skateboard, Lego-Rover, remote control, glider and air-plane. All objects in Sculpt format.
TSP6: 3D Vector Objects #1 Lamp, mirror, bed, chair, fire hydrant, lamp post, street lamp, street sign, traffic light, cannon, cannon supplies, rose, fork, spoon, knife and plate. All objects in Sculpt format.
TSP3: Games 1 Crystal Caverns is an adventure game with randomly generated worlds--you'll never trash the same world twice! Dot2Dot is an adaptation of the clas-sic 2-player connect-the-dot game. PizzaDeliveryMan has you running through the streets to get those pies to your customers. TinyBall is the world's smallest baseball game. Surround-Cycles is a high-speed arcade game, based on the light cycle races from the Disney movie Tron.
TSP2: Sounds Animal sounds, musical instruments and many, many more—43 sound samples in all!
TSP1: Maps of USA, Canada and Europe Hi-Res IFF brushes of all 50 US States, 10 Canadian Provinces and countries in Europe. Each map has a 3D extrusion effect with cast shadow.

SAVE 39%!!
SUBSCRIBE!

- A mixture of great utilities, application, games & more!
- *Receive 6 bi-monthly double-disk issues for just $49.95!*
- **Save $39.45** off single-issue price!*
- Convenient automatic home delivery
- Lowest possible prices!
- Receive your disks weeks before others do!
- **Full Money-Back Guarantee:** If you're not completely satisfied, we'll refund your money--no questions asked.

*Based on single-disk pricing including handling.
Canadian subscriptions add $5.00 shipping, all other Foreign add $10.00 shipping.

TC34AB: Optimizer will permanently speedup your hard-drive or floppy disks. LCD Calc is a nice full-screen calculator. BBaseII is a useful database program. FixDisk will correct many problems with disks. BizCalc is a loan analyser. Interferon is a Tetris-type game. Nebula is a 3D space game. PicBase will allow you to track all the IFF images you have. Hate is a great Zaxxon clone.
TC33AB: Measures 1.0 is an incredibly useful utility that will convert any type of mea-surement to another. DiskLabeler is a database designed for storing and printing 3." disk labels. Jewels is a Tetris-esque game of action and strategy. Switch is a fun board-game. Gfxclipper will allow you to grab any screen and save it as an IFF pic-ture. Softball Manager is a database for storing stats for softball—any number of leagues may be tracked. WBExec allows you to execute CLI commands from within the Workbench. Several Clipart images are also included.
TC32AB: Computer Coloring Book is a delightful program for children of all ages—comes with 15 pages of pictures to color again and again. Listmaker lets you make, edit, combine and print lists of words—great for those spelling tests! Moresmooth! scrolls text files smoothly on the screen and allows easy printing. Pocket Billiards lets you choose from several of the most popular pool games with realistic action. Texture allows you to create, manipulate and save (in standard IFF format) realistic fractal tex-tured surfaces. Plague is a monster maze game. Also includes Screen Fader, Snowbench, and FlipBench.
TC31AB: Calendar Publisher is a professional-caliber calendar maker that is customiz-able. CrossCircuit is a 1 or 2 player action/logic game that calls for fast reflexes and thinking. APR is a much-needed printer utility. Pizza Delivery Man is a maze game where you deliver pies in your neighborhood. Multiplayer is a single program that will let you see IFF pictures/brushes or playback IFF sound samples. Also includes RAMgauge, 3-D vector objects and Hi-Res IFF brushes of maps and flags of European countries.
TC25AB: ScreenToIFF captures your screen to an IFF file. PopColors lets you change the colors of your Workbench screen. Warrior is a fun shoot'em-up/adventure game for one or two players. Kaleidoscope is a line drawing program. Blockbusters is a game where you get rid of blocks by pushing matching blocks into them. Amidemo will show-off your Amigas ability to do solid-polygon animations. Microscope lets you examine memory at any location. Also includes Hi-Res IFF brushes of all 50 states and 10 Canadian provinces, nine digitized sounds and two small disk utilities and print-er utility.
TC24AB: TableMaker is a tool for effortlessly building numerical tables. Kooties is a fun game where you have to assemble a bug before the computer beats you to it. HyperText lets you put links in a text file to other text, graphics, sound, animation, ARexx and other applications. The Little Black Book is a wonderfully useful telephone and address book. Color Logic is a MasterMind-type game. Also includes several disk and memory utilities—and some animal sound effects to top it off.
TC23AB: WhereIs lets you quickly and painlessly find a misplaced file on your drive. Select creates a window from which you can run your favorite programs. MatheMagic lets you find the day of the week for any date in the century, also lets you enter statisti-cal data to be analyzed, graphs data, and solves linear algebraic equations. Pointer List Maker lets you create your own pointers or import pointers from other programs and save them in a disk file. Dyno-Wars requires more strategy and thought than your regular checker board game. Also includes Mr. Monster and Trilion games, 3-D objects, six sound effects and an animation of a pretzel.
TC22AB: Amiga Checkbook is a fast checkbook manager with check printing ability, budget analysis, and a report writer. AmiCrypt is a file encryption/decryption tool to password-protect any file...a must for security. WaveSyn lets you design musical instruments and waveforms for use in other programs. It also lets you play your key-board like a piano. Cinco is a game where you try to get five X's in a row before your opponent does. AlterCLI lets you change attributes of your CLI window (width, title, depth, height, location, colors) with a single command—very useful for scripts. Also includes an animation by renowned Amiga-artist Lou Markoya, as well as 3-D objects.
TC21AB: Circe is a "risk-style" game where you battle the computer to take over the planet. Batchman allows you to execute CLI programs, batch files and ARexx scripts by simply clicking on a gadget. Colors prints color test sheets and assigns RGB val-ues to printer and screen output....absolutely invaluable to achieve the best color print-ing results. Easyfile is a powerful database for home or a small business. Sprite Editor lets you easily create animated sprites. Plus 3-D fruit objects and five sampled sounds.
TC16AB: Cyberscape generates complex 3-D vector objects of terrain and saves your objects in Sculpt or Turbo-Silver format. Mathplotter graphs mathematical equations in both 2-D and 3-D. Double Print prints your text files on both sides of the paper. Metamorph, a graphic adventure game, Tinyball—the worlds smallest baseball arcade game and 6 digitized sound effects.
TC15AB: Labelmaker is a very easy to use label program. SurroundCycles, a high-speed arcade game. Dot2Dot, an adaptation of the classical connect-the-dot game. A tutorial on animation techniques by Amiga-artist extrordinaire Brad Schenck complete with one of his animations. Also includes a collection of clip-art and more animal sounds.
TC14AB: AmigoFile is a database and address book. Graph 3-D lets you visualize complex data in a 3-D manner and save the results. Spectrogram analyzes and dis-plays digitized sounds. Pteronadonaball—an animation by Lou Markoya. Also includes 3-D Tic Tac Toe, 3-D objects, food clip-art, and sampled sounds.
TC13AB: StrucGen lets you create gadget, text, bitmap, and window structures and writes the C source code for you. LifeCycles plots your biorhythms. Create spectacu-lar images with Mandelbrots. Look, a CLI utility that helps you find files on your disk quickly and easily. Plus 3-D objects, holiday clip-art, an Amiga Flight animation, drive head cleaning utility, and technical discussion on how AmigaDOS stores information on disk.
TC11: DiskSalvage will fix corrupted disks and recover deleted files. IconMeister is an advanced Icon editor. AlienDuel is a fast, shoot'em-up game. Crystal Caverns is a colorful, graphic adventure game like the arcade game. Also includes an animation, sound samples, 3D dinner table objects, and Hi-Res monster clip-art.

Special Edition Toolchest

RK1: MegaBall - This disk contains the full-release version of MegaBall, complete with the level editor to create your own challenging worlds to conquer. This game is quite similar to Arkanoid and allows two players with stereo sound and 5 soundtracks! Special RK price, $14.95.
RK2: MachIII - This remarkable utility will allow you to record any mouse click or keypress and play it back as a macro at any time, inside any program. Also provides memory info/clock, alarm, screen blanker, mouse accelerator, mouse-to-menu, sunmouse and window cycling. Special RK price $19.95.
RK3: 3D Objects an amazing collection of some of the best 3D objects we've ever seen. Also includes texture maps to wrap around some of the objects...1.5MB of data in all! $14.95
RK4: Home Manager This program will help you keep track of your life! Complete address book, appointment scheduler, notepad, auto-dialer (requires modem), area-code utility and complete inventory of all your possessions and credit cards. Extremely useful. Requires 1 Meg. $14.95



AmigaPlot featured on TSP14

The AmigaWorld Toolchest
11835 Carmel Mtn. Rd #1304-T11
San Diego, CA 92128

Please rush me these disks
(Use product ID code--i.e. TC22)

#____ #____ #____ #____
#____ #____ #____ #____
#____ #____ #____ #____
#____ #____ #____ #____

NOTE: All "TC" disks count as TWO disks
Total disks ______@ $______ each ....$______
Total for special "RK" series disks .....$______
Toolchest Subscription ($54.95) ....$______
CA Residents add 7.75% Tax ....$______
Handling ....$ 3.00
Foreign Shipping ....$______
Total enclosed ....$______

Most orders shipped the following business day. No shipping charges within the USA. Canada add $.25 per disk. Foreign add $.50 per disk for air mail delivery. Payment in US funds only.

[ ] Visa
[ ] MasterCard
[ ] Discover
[ ] Check/Money Order

CC#:
Expiration Date:
Signature:
Name:
Address:
City: St: Zip:
Phone: ( )

Orderline (800) 677-0416
Technical Support (619) 486-9538

DevWare

EXCLUSIVELY SERVING THE AMIGA SINCE 1985

$3.45* ea. 30+ Disks

$3.95* ea. 20-29 Disks

$4.45 ea. 11-19 Disks

$5.95 ea. 1-10 Disks

****SPECIAL****
Order 15 disks and receive a complimentary copy of Anti-Virus (a $20 value) ***AND*** pick any 3 disks of your choice!

Public Domain Library

GUARANTEE - We believe so strongly in our product that we offer a full *lifetime*, complete satisfaction guarantee. No questions asked.

We have been the official Public Domain Library of all the best Amiga magazines. Find out why these magazines choose us! The first two letters on each disk indicate the orientation of the disk; WB# general interest - most programs can be run from the workbench, FD# games and entertainment, VO# are video related programs/utilities and DD# advanced--requires thorough knowledge of AmigaDOS/CLI. *Thanks to our extensive arsenal of anti-virus software, ALL of our software is guaranteed virus free!*

UNBEATABLE VALUE!

DD79abcd: Amiga "C" Tutorial - This is the most comprehensive C language--*Amiga oriented*--set of tutorials available. Includes full working examples, source code and an incredible set of lessons. Included are full discussions and examples for Amiga programming. 4 disk set, counts as 3.
WB118: Amiga Beginner - You asked for it! This disk contains a complete tutorial for the beginner on using the Amiga. Starts you off at the power-switch and takes you through to the CLI/Shell and all points in between. *Bonus!* Also included are 16-color icons to replace *every* icon in your 2.0+ Workbench.

NEW DISKS

FD84: Games! Deluxe PacMan is better than the origional--20+ mazes, special "power-ups" with *oustanding* graphics. ThinkAmania is the classic game of concentration--with *beautifully* drawn HiRes images.
FD83: Arcade Series: Contains Croaker and Squamble, two great clones of the arcade games "Frogger" and "Scramble."
FD82: Intrepid - In the Arctic ice, you control a tank on a mission to rescue hostages in this superbly crafted Amiga origional.
FD81: SuperGames - Some of *the* best games--Donkey Kong is better than the origional *with an extra level!* Frantic Freddie and TrailBlazer are both fast-pased arcade games. Mad Bomber is the classic game of "Kaboom" redone with an Amiga flare. All of these games are excellent!
FD77: Arcade Series - Galaga'92 is a clone of the arcade game of the same name with several gameplay enhancements--with smooooth, sharp graphics, it's better than the origional! Pharaohs Curse is a clone of the origional C64 classic. Diplomacy is a beautifully computerized version of the Avalon Hill board game--conquer or be conquered!
WB122: System Optimizer - KCommodity ehances your system, gives memory meters, mouse/keyboard enhancements, online timers plus *many* others...too numerous to list! REorg will optimize hard and floppy-disks for a big speed increase. HDMem will allow you to use up to 2 megs of hard-drive space for virtual memory! (Req. 68020+ w/MMU) All programs require 2.0+.
WB121: ProPage3 Enhancer - This disk contains over 40 "Genies" for use with ProPage 3.0, including useful ones like Make Pie Chart and Resize Text to fit Box to name a few. Also includes structured & bitmap clipart for unique borders...a *must have* for all PPage 3 users.
WB120: Grinder - a complete graphics conversion package that supports GIF's, JPeg, Atari ST (Neochrome & Degas), PCX, Targa, TIFF, HAM-E and IFF format pictures.
WB119ABCDE: Font Set This collection contains over 100 typefaces for use with Professional Page 3.0 or PageStream 2.1+. These fonts will output to any laser printer or dot-matrix printer with no jaggies, thanks to outline font technology. Very professional looking typefaces. *5 disk set, counts as 4.*
DD88: GnuPlot - This is a command-driven interactive function plotter. Creates stunning plots/graphs of mathematical functions. Requires hard-drive and unpacks to over 1.6MB of code/data...most impressive!
DD86: The Programmer - Includes GadTools and REQTools which will allow you to create your user interfaces and then the program will automatically generate "C" source code or Assembly-code--saving you countless hours of work! Requires, and writes code for, AmigaDOS2.04.

FUN DISKS

FD5: Tactical Games - BullRun - a Civil war battle game, Metro you play the role of a city planner. Build wisely and your system will be a success, but poor planning will lead to disaster and financial ruin. Very very habit forming.
FD6: GAMES! - This disk is chock full of games including; Checkers, Clue, Gold - A new slide the pieces puzzle, Jeopard - An enhanced version of Risk, RushHour - Surprisingly addicting, and SpaceWar - Best described as a cross between Combat-Tanks and asteroids.
FD7: Pacman - This disk contains several pacman type games including; PacMan87, MazMan and Zonix.
FD9: Moria -. This has great graphic controls, multiple spells, similar to Larn and Hack. Play time several weeks!
FD10: HackLite - A dungeon adventure game. Considered a must-have classic. This is the second release of this game on the Amiga. Great graphic interface. Play time several weeks!
FD11: Las Vegas and Card Games - Las Vegas Craps - The best Las Vegas Craps simulation every written for any computer. Contains extensive HELP features, Also Thirty-One,VideoPoker and more.
FD12A,FD12B: Star Trek, The Game - This is by far the best Star Trek game ever written for any computer. It features mouse control, good graphics, digitized sound effects and great gameplay. Counts as 2 disks. Req. 1Mb and two drives (or hd).
FD13: Board Games - contains multiplayer Monopoly, Dominoes, Paranoids, and others.
FD14: Dungeon Master Hints and Arcade Games - DM maps, spells, item location, and hints and more, also on this disk, Hball - an arkanoid/breakout type game, Trix - a Qix type clone.
FD17: Educational Games - This disk includes several games for the younger members including geography, math, science, and word games, also includes Wheel of Fortune.
FD20: Tactical Games - MechForce(3.72); A game that simulates combat between two or more giant, robot-like machines. Simple words can't begin to give you the feel of piloting a 30 - 40 foot tall, fire breathing, earth shaking colossus that obeys your every whim.
FD26:Arcade Games - Marble_slide is a commercial quality game—similar to a Lucas game named PipeDreams, excellent playability and entertainment. Mutants—a small version of the same arcade game. SuperBreakout is a Pong/Arkanoids type game.
FD27: Arcade Games - This disk is loaded with some great games. Includes, Raceorama a great racing car game with ten different courses, MiniBlast a helicopter gunship type clone, Shark in the same class as froger, and SBreakout the original breakout with more.
FD29: Shoot'em up's - WWII - you're the pilot of a WWII plane flying through enemy territory, you've just been spotted, good luck on you mission, SpKiller - try and penetrate enemy lines with this game, and Retaliator - another great game.
FD31: Games! - Air Traffic Control - a good ATC simulation, Black Jack Lab - a full featured set of card games, ChessTel - play chess with your friend in distant and remote places with this game and a modem, labyrnth - a well done text adventure game (like an infocom game), and MouseTrap - a 3d maze game.

SPECIAL PRODUCT!

QT1: THE A64 PACKAGE - A very complete Commodore 64 emulator. Supports any CPU and is fully compatable with WB1.3 & 2.0. This version includes a special adaptor that will allow you to connect your 64's 1541 disk drive to your parallel port of your Amiga for total emulation. Two disk set, counts as two. Special price $49.95 - including hardware.

FD32: Flight Simulator - An instrument flight simulator for a DC10.
FD33: Arcade Games - Ffreddy a Mario Brothers type of game, Gerbils a target practice game, PipeLine a German interpretation of Pipe Dreams, Tron a light cycles version, and Wetroids a wonderful version of asteroids with a hilarious twist.
FD35: Omega (v 1.3) - A new outstanding dungeon and outdoors adventure game in a similar vein as hack, rouge, and moria. This version is considerably faster and better that all previous versions. Play time several weeks.
FD37A&B:Tactical Games - Empire (2.2w) This great game comes highly recommended. With a full-graphic front end.
FD38: Games - Cribbage Master - A great cribbage game and tutor, Spades - a well done card came, ChineseCheckers - A computer version of this classic, Puzz - a slide piece puzzle game and construction set.
FD39A&B: Star Trek, The New Generation - This is a, completely different version of Star Trek than that found on FD12. This one was created by the German author Tobias. Now with English instructions. Excellent!!! Counts as two disks. Requires 512k
FD44: Game - Mechfight is an out of this world role-playing adventure comparable to hack and moria. The setting, interplanetary colonies and space stations. In your quest to explore the world, take time out to liberate bad guys of their most valuable possessions, engage in a mortal combat or two against robots and alien life forms, pick up a new Amiga 9000. Most of all, don't forget to stay alive...
FD50: Submarine Game - Sealance, one and a half years in the making, this is an outstanding submarine tactical game. Commercial quality, highly recommended.
FD52: Classics Games - PetersQuest a well done Mario brothers type of game, Jymbc a two player missile command clone, and Vstank a tank commander game.
FD53: Great Arcade - On this disk is a wonderful implementation of the ever popular classic arcade game Defender. Also contain Air Race a WWII flying ace arcade game, and Psycoblast new creation idea game.
FD57: Arcade Games - Includes 2 truly commercial quality games. MegaBall, an Arkanoid-ish game, features 5 musical scores, multiple levels and addicting gameplay. Gravity Attack is a psychadellic trip through several different worlds—each distinctly different.
FD59: Game Potpourri - Xenon III is an almost exact clone of the commercial game of the same name...a great shootemup. Crossword will take lists of words & automatically generate word-search puzzles for any Epson compatable printer.
FD60: Games - In Nebula, race over a 3d world to destroy enemy installations. Interferon; a great Dr. Mario clone. Enigma; is it a gameor a puzzle?
FD61: Games - Solitaire; great graphics, plays two versions. Klide; an interesting piece of eye candy. Extreme Violence; 2 player kill or bekilled game. YATC; A Tetris clone with Artifical Intelligence. Genesis; create realistic 3d fractal worlds.
FD62: PomPom Gunner. An extremely smooth and well done World War II gunner simulation. Requires 1 megabyte of memory.
FD64: Games - Wizzy's Quest - a "great" 50 level game with great graphics, Cubus - a 3-dimensional Tetris type game (rotate and move in 3 dimensions). Husker Du - Colors and pattern rather than shape in this Tetris-esque game; 5 screens and 3 levels of difficulty. Requires Fat Agnus (1 Meg of Chip)
FD67: Arcade - Includes Llamatron a well-done 'Robotron' clone. Hate is a "terrific" commercial grade Zaxxon clone with multiple levels/worlds and smooth diagonal scrolling...a 10!
FD68: Potpourri - Eternal Rome is a strategic simulation of the Roman Empire including military, diplomatic, political, economic and social factors. Lord of Hosts is a board strategy game for 2 players. In Moonshine, you've got to get the hootch across the state line—a great rolling, scrolling driving game!
FD69: MindGames - Had enough of shoot-em up games? Relax and let these 21 games exercise your mind instead of your wrist.
FD70: SpaceGames - Contains AmiGoids, >finally!< an Asteroids game that takes advantage of the Amiga—totally configurable with great sound and grpahics. In Cosmostruction the object of the game is for each Cosmostruction team to acquire the most points while construction energy ducts between the space station and planetoids.
FD71A&B: Star Trek: TNG Trivia Challenge - So you think you know The Next Generation, huh? Complete with fantastic sampled sounds and digitized images, this game even looks and sounds like a genuine Star Trek terminal! VERY thorough and complete! Counts as 2 disks.
FD72: Sword of the Warlock - This is a demo version of a great public domain graphic dungeon adventure game. The adventure spans three diskettes and allows two players to go adventuring. The game has a 'Bards Tale' feel to it. Three disk set, counts as 2. Requires 1 meg of RAM and 2 floppy drives--HD installable.
FD73: Arcade Series - Intruder Alert! is a MULTI-level "Berserk" clone. Features smooth gameplay, great graphics & digitized sound f/x.
FD74: Arcade Series - RingWar is an "Outer Limits" clone with vectorized graphics. MotherLode is a "Lode Runner" clone with 50 levels! In BlitzTanks, they're coming at you from all directions!! Call in air strikes and use your heavy artillery to survive!
FD75: Arcade Series - Descender is a clone of the classic arcade game "Tempest"; complete with vectorized graphics. Tanx is the classic battle of trajectories and inertia between two tanks—incredibly well done! Search is a maze game unlike any other—included is a level editor too. (Tanx requires 1 meg chip memory=Fat Agnus)
FD76: Catacomb - is a full graphic dungeon adventure game with beautiful graphics and a very slick icon/mouse driven interface.

WORKBENCH DISKS

WB4:Telecommumnication - This disk contains several excellent pd communication programs designed to get you on line quickly and easily, Access (1.42) - A very nice ANSI term program. Comm (1.34) - Latest version of one of the best public domain communications programs ever made on the Amiga, Handshake (2.12a) Handshake is a Full featured VT52/100/102/220
WB5: Fonts #1- Several fonts (35) for the Amiga, also included are five PageStream fonts,and ShowFont - a font display program.
WB6: Fonts #2 - ShowFont(4.0) This program allows you to quickly and painlessly view all 256 characters in a typical font. Large AmigaDos system fonts (many up to 56pts).
WB7: Clip Art - This disk is loaded with black and white clip art. Art includes, trees, watches, tools, US and State maps, and more.
WB9: Icons - Truly a multitude of various types and kinds. Also includes IconMiester, IconLab, and others great utilities to help generate icons.
WB10: Virus Killers - The latest and best VirusX(4.0), Kv(2.1), and ZeroVirus III.
WB11: Business - Clerk(4.0), finally a full featured business accounting PD program for the small to medium company. Includes receivables, payables, end of month and uch more.
WB12: Disk Utilities - This great disk is loaded with wonderful utilities for everything including making disk labels, disk cataloging, disk optimizing, disk and file recovery archive and organizing, and all sorts of file manipulation. A must have!
WB13: Printer Drivers and Generator - over 70 different drivers, and if these don't do it, with PrtDrvGen you can make your own.
WB15: Business - This disk contains a spreadsheet, a database, a project/time management program and financial analysis (stocks).
WB16: Business - This disk contains an inventory manager, a loan analysis program, a great calendar/scheduler, a rolodex program, and pennywise a good "Cash Book" accounting for home or office.
WB18: Word/Text Processors - This disk contains the best editors. Includes,TextPlus (v2.2e) a full featured word processor, Dme(v1.35) a great programmers editor with strong macro features,TexED(v2.8) an enhanced Emacs type editor, and a spell checker.
WB22: Fonts #3 - Several more great fonts. These, like the other font disks work great with Dpaint and WYSIWYG word processors.
WB23: Graphics and Plotting - Plot (20b) a three dimensional mathematical function plotter. Can plot any user defined function, BezSurf2 - produce awesome pictures of objects one could turn on a lathe. Can also map iff image files onto any surface that it can draw. Now compatible with most 3D packages, and VScreen - makes a virtual screen anywhere, great for DTP!
WB25:Educational - On this disk are two programs that can generate maps of differing types, World Data Base uses the CIA's data base to generate detailed maps of any entered user global coordinates. Also Paradox a great demonstration of Albert Einstein General Theory of Relativity.
WB26: Disk Utilities #2 - MrBackup, KwickBackup - two well done utilities to do harddisk and floppy disk backups, FileMast - a binary file editor, Labelprinter - Disk label printer with very powerful features.
WB27: Nagel - 26 Patrick Nagel pictures of beautiful women.
WB29: Graphics and Sound - This disk has several different Mandelbrot type programs for generating stunning graphics. Includes, MandelMountains - a realistic terrain generator, Fracgen - generated recursive fractals from user input, Mandelbrot and Tmandel - two fast mandelbrot generators, also Mostra - the best IFF display program to date, will display ALL IFF's including Dynamic HAM, and Sound - a great IFF sound player, will play anything.
WB33:Circuit Board Design - several terrific routines for the electronic enthusiast, Including PCBtool - a circuit board design tool, LogicLab - circuit logic tester, and Mcad (1.26) a well done new release of this PD CAD program, now comes with predrawn common circuit components for insertion into schematics.
WB34: Utilities - Several well done utilities, some will require moderate knowledge of a CLI or Shell for setup, Chatter Box - this one will play any user defined sound after any event (ie. disk insert, mouse click, disk removal...), , Artm - The Amiga real time monitor, gives you full control of the Amiga OS, very powerful program, Helper - help program to make learning the CLI easier, and more!

WB35: 3D Graphics - This disk contains several neat programs to use with your 3d modeling/raytracing programs 3dFonts - Full vector font set for use with 3d programs, FontMaker - make 3d fonts from any system font, Make3DShape - create 3d shapes from any image, DumptoIFF - create 3d animations preserves pallet, and World3d - a demo program of a front end for use with DKBRender.
WB36: Graphics - On this disk are several programs to create stunning graphical images including, MPath - creates swirling galaxy images, Roses - produce an unlimited number of variations of images that a symmetrically similar to a rose, SimGen - display those spectacular images as part of your workbench screen, and RayShade - a very good raytracing program, create your own beautiful 3d graphic models with this one!
WB37: Educational - Educational games and puzzles that cover math, geography, spelling, and books. Ages 6 - 15
WB38: Plotting and Graphics - Plotxy is a powerful full featured plotting package. Used by many colleges and universities. Highly recommended. Plans - a incredibly well done Computer Aided Drafting program, very full featured. Tesselator - a program that helps generates fantastic looking, recursive M.C. Ecsher type pictures.
WB40: Music - "CD on a disk", 90 minutes of modern music on this well presented collection. Requires 2 drives or HD.
WB41: Music - MED an incredibly well done, full featured music editor. Create your own stunning music directly on your the Amiga. Similar to SoundTracker but better. Very powerful easy to use program. Version 3.20, which is compatable with WB2.04.
WB43: Business - This disk contains AnalytiCalc - probably the most powerful spreadsheet program on the Amiga. A full featured spreadsheet with many features expected in a commercial package. Req. 1.2

Memorex blank disks 3^1/2" DSDD

10 for $7.50 (.75 cents ea)
25 for $18.00 (.72 cents ea)
50 for $33.50 (.67 cents ea)
100 for $62.00 (.62 cents ea)

No shipping charge on USA blank disk orders, Canada and Mexico add $.15 each, other foreign add $.50 each.

MBWB46: Clip Art - HighRes clip art with the following motifs - embellishments (borders, dodads ,...), people, and transportation.
WB47: Clip Art - HighRes clip art with the following motifs - hair, drafting, summer, animals and macfood.
WB48: Clip Art - HighRes clip art with the following motifs - Holidays, music, medical, and misc.
WB49ABC:Animation Sampler - On this three disk sampler set (counts as two disks) are some of the best animations that have been created over the last three years. Several examples of "Movie" type animations some with spectacular raytraced reality (coolroby, watch, spigot and egg). Also several european style or "Demo" animation with incredible graphics and outstanding electronic music (akrilight, copersine, doc, dps2010, impact, and logodemo). These truly show off the Amiga!
WB50: Animation - Seven of the best european style animations or "Demos", including - scientific 451, subway (a U.S. entrant, also our favorite), sunride, thrstdemo, tnight, waves, and woow.
WB53: Graphics - Raytracing programs generate absolutely stunning realistic looking planes, rockets, buildings..., and surreal images often consisting of highly polished spheres and objects. C-Light is the most powerful EASY-TO-USE of it's kind we have seen to date. This is easily better, and more full featured, than similar commercial programs costing in the hundreds of dollars. Also, sMovie - a full featured video text titler similar to ProVideo, Broadcast Titler. Great video scrolling, wipes, special effects, and more...
WB54: Printing - This disk contains several routines to help with the chore of printing. Includes Gothic - Finally a Banner printer for the PD! PrintStudio -a well implemented all-purpose printer-utility with a very comfortable graphic interface and many advanced features, Lila - with ease, print ASCII files to a PostScript printer, and many more.
WB55: Application - XCopyIII - A full featured disk copier, make backups of copy protected disks. RoadRoute - find the quickest route from one city to another, highway description included. Diary - a diary program like "Dougy Howard M.D", Cal - a calendar program, Magman - a database tailored to maintain records on articles and publications.
WB57: Animation - This disk has several "Demo" style animations, Including, Blitter, Lolly, Sun5, vertigo, vortex, and xenmorph.
WB62: Midi Utilities - Several useful midi utilities including, programs to transfer to and from several music programs to midi, a midi sysex handler, a midi recorder with timebase, display midi info, file sequence player, and a few scores.
WB63: Disk Utilities #3 - Several highly recommended programs to aid in removing duplicate files from your hard drive, performing file backups, Binary editing, fast formatting, file recovery, disk track recovery, and forced DISK VALIDATION of corrupt disks.
WB66: Icons #2- Lot's of neat icons. Also, several wonderful programs that to let you create your own icons, modify and manipulate icons and info structures.
WB68:Music Utilities - several good utilities for the Amiga music enthusiast. Includes, Noisetracker - a great music creation program, Sonix2MOD - converts sonix to .mod files which then can be used by noisetracker, soundtraker, and MED, SpeakerSim - a speaker design tool demo, Wondersound is an additive harmonic instrument design tool with a separate envelope design window and 16 relative harmonic strength and phase angle controls.
WB69: Music - This disk has over 90 minutes of classical and modern electronic music for you Amiga.
WB70: Desk Top Pub - Atcp - transfer Macintosh screen fonts, Mac or IBM format .AFM metric files, to Amiga screen fonts and PPage .metric files. With this program, open the door to the libraries of Adobe and PostScript fonts! Calendar - month templates in PageStream form. Post - a full featured postcript file display and print utility.
WB75: Music - over 100 instruments files (.inst) and sample sound files (.ss) for your music programs.
WB76: Applications - This disk contains Stichery - a often requested knitting design program, Lotto - a rather complete lottery tracking and prediction utility, SSS - this screen capture program can grab almost any screen including games, Today - a personal calender, Tarot - fortune teller, and Grammar - grammar checker.
WB79: Home & Business Accounting - Includes Ckbacct - the most complete checkbook accounting program going, LCDCalc - this well done calculator has a very large display and operates from the keyboard or mouse, Mileage master - monitor your automobile mileage with this mileage log, Grammar - a grammar checker, and Worldtime - find out what time it is in up to 50 global cities.

WB81: Great Applications - DataEasy a very easy to use, database program. Don't let the ease of use fool you, this is a very full featured database program including full printer control for address labels and mail merge applications. Also includes, TypeTut a good typing tutor, RLC a full featured label printer, Banner, a multi-font banner maker, and Budget a home accounting in a program. Highly recommended.
WB82: Animations - Four full length, well done "movie" style animations. Including, Coyote, JugglerII, GhostPool, & Mechanix. 2 disks, counts as 1.
WB83: Computer Art - this disk has some of the best Amiga generated computer art that we have collected in the past 5 years.
WB88ABC: The Complete Bible - A three disk set, with the entire text of the New Testament and Old Testament-King James version. A great utility. Three disk set, counts as three.
WB90: Rippers, Strippers and Beats - For the Amiga music enthusiast, this disk contains many programs designed strip music from your favorite games and programs. Also contains Drums, a very nice drum machine. This disk requires some knowledge of the CLI.
WB93: Workbench Extras #2 This disk contains the utilities that Commodore should have shipped with the Amiga; VirusX4.0, Snap, FixDisk (recover corrupt/deleted files), Disk Optimizer (floppy & hard), MachIII (screen blanker, hotkey, mouse accel., macro, clock utility), GOMF (a gurubuster)and PrintStudio.
WB95: Checkbook Accountant 2.1 - This is definitely commercial grade; we've seen many checkbook programs and this is absolutely the best. Full budgeting, transaction recording and report generation.
WB96: Dupers - Contains XcopyIII & Nib which will backup copy-protected programs. FreeCopy removes copy protection from several programs, and SuperDuper will crank-out fast AmigaDOS copies.
WB98: Business - Includes BBasell a nice, powerful database; BizCalc—a personal or mortgage loan calculator with amortization capabilities, Loop—a flowchart maker, Formmaker - design professional forms on your Epson LQ-2500 compatible printer.
WB99: Lifestyles - Includes AGene—family tree program that tracks up to 600 people/marriages/etc. Landscape is a CAD program to create gardens/landscapes. Loom simulates an 8 harness loom; experiment with pattern design in an instant feedback environment.
WB101: Chemesthetics - is a program that displays molecules as a calotte model. This kind of display contains a certain esthetic attitude, even poisonous molecules like nicotine and dioxine look quite nice.
WB102: Telecommunications - Contains the programs NComm 2.0 and VT100-29B. Zmodem protocols, XPR protocol support, full VT100 emulation. NComm's script language is so powerful it comes with a script file that creates a full-featured BBS system.
WB103: Music - Contains 12 "great" Soundtracker/MED music MODules...complete with programmable/shuffle player...8 bit audio never sounded so hot! Two disk set counts as two.
WB106: Home Manager - This is a great all-in-one address book with an autodialer/notepad/to-do list/appointment scheduler/home inventory database and phone number dialer.
WB108: OctaMED - This breakthrough program doubles your Amiga's sound capabilities from 4 channels to an ear-popping 8 channels! All the renound editing capabilities of MED plus 4 more channels! If you thought your Amiga sounded good before...you aint heard nuthin' yet!
WB109: VerseWise - Display, search and output The New Testament to text files or your printer.
WB112: Productivity/Business - Stock Analysis while automated downloading of stock data with full analysis capabilities (requires modem). SubStore will allow you to log magazines and articles with full search/scan/print capabilities.
WB113: Sid II - Why pay 40 bucks for a directory utility, when this one will do it all plus much more! A truly professional-caliber program. Sid 1 was our best, now *completely* rewritten, Sid 2 will astound you.
WB114: Fonts #4 - Contains 36 bitmap system fonts.
WB115: Term - If you have AmigaDOS 2.04+ and a modem, then this is *THE* program for you. Term *totally* conforms to the User Interface Style Guide for 2.04, has an ARexx port, and supports all popular file-transfer protocols through XPR libraries. We wish all programs were this good.
WB116: Databases - This is what you've been waiting for! Contains 5 uniquely specialized dtabase programs for tracking: Videotapes, CD's, Magazine Articles, Comic Books and Trading Cards!
WB117: Religion - Contains Scripture_Mem (aids in memorizing verses and passages) and in Pauls Journey, you are Paul of Tarsus exploring the Mediterranean and preaching just as Paul did. Req. 1 MB RAM.

DEV DISKS

DD45: AREXX Programs - This disk contains several useful arexx programs and examples, PopCLI4 - The latest of a must have utility.
DD47: Pascal - This disk contains everything needed to program in Pascal. Includes, A68k (1.2) 68000 assembler, Blink linking software and PCQ (1.0) a modest Pascal sub-set compiler.
DD49: C Compiler - contains zc(1.01) fully K&R, zcc(1.0) front end, A68k(1.2) assembler, Blink linker.
DD50: ARexx #2 - a must have set of tutorials on ARexx and several useful examples and utilities for ARexx development.
DD51: Circuit Analysis - Aspice (2.3) A full featured program for electric circuit analysis.
DD52: Scientific - Includes Elements - an incredibly well done periodic table program with source, Scientific plotting - over 600k of Lattice C source routines that can be included in your own programs.
DD54: Compression - This disk is loaded with all of the best file compression programs and aids for the Amiga. Many of the programs can be used by the new user. Includes Arc, Lharc, Lhwarp, Pkax, PowerPacker a must have by all, Zip, Warp, and Zoo. Also IFFcrunch an excellent compression for IFF files.
DD55: ARP - On this disk you will find the complete ArpRel3.0 release including the full user docs, the full Developers guide. ARP is the official AmigaDOS Resource Project (ARP) release 1.3. ARP makes many improvements to AmigaDOS and makes your CLI more powerful.

WB105A&B: Workbench 2.0 Extras #2

This set contains the programs that should have been included with WB2.0. These powerful utilities take full advantage of the *many* new capabilities that are available in Workbench 2.0.
Tool Manager - a wonderful utility to add programs to your TOOL menu, create a collection of icons on the workbench to easily launch frequently used programs...and much more! (See the review in AmigaWorld-May'92)
Virus Protection - just drop this icon in your WBStartup drawer.
Degrader - gives you tools to try to make non-2.0 happy programs work!
Icon - Enhances Workbench's "Show All" to display over 40 distinct icons for different types of files (text, IFF's, source codes, libraries, etc)
Font Editor - Create/edit bitmap fonts with full color support!
Screen Blankers - ala fractals and spliners and swarming bees!
Requester Enhancers - no more stale "Please Insert Volume" requesters--these are *animated* requesters for *all* of the system's requesters.
CPUBlit - speeds up text displays for owners of 68020+ CPU's.
TWO DISK SET, COUNTS AS TWO

THE AMIGAWORLD "BEST-OF" SET!

FD85ABCD: AmigaWorld's Best - These four disks contain the *hottest* p/d games of '92! Includes Mother Lode, Moria, Minefield, Poing, Intruder Alert, Deluxe PacMan, Rocky and Super Artillery (see Dec. '92 AmigaWorld) Four disk set, counts as three.

DD57: Advanced Utilities - Msh - like Cross-dos, copies files to and from MS-DOS, Pal-NTSC - convert any pal program to NTSC and vice versa, Also several boosts for your startup-sequence, plus 25 more programs.
DD62: Basic and Xscheme - Cursor - a full featured Amiga Basic compiler, sbasic and ftext - several wonderful routines to help in basic programers, and Xscheme - an interpreted object oriented language.
DD66: Programming ToolBox - Many programs to help in your development efforts (most for C some for basic) Includes programs to generate requesters, an incredible spritemaker toolbox, to greatly aid compiling, convert DPaint brushes to C structures, a great library manager, and many more wonderful time savers!
DD69:Advanced Utilities - SerNet and ParNet - Connect two Amiga's and share resources, MemMonitor - Similar to WFrag but greatly improved, Selector - put menus on your workbench screen, and more.
DD71A&B:C Compiler - This disk contains DICE, Matthew Dillon's full featured, powerful C compiler and environment system. 2 Disks, counts as 2.
DD77: Fortran - Contains a full featured Fortran77 development system. Also contains EzAsm a strongly macro dependent 68000 assembler.
DD82: Unix - Contains a working demo of Minix - a Unix workalike. Minix is system call compatable with V7 of Unix.
DD83: IBM - Not one, but *TWO* IBM emulators that will allow the running of MS-DOS software *with* Amiga programs!!! Comes complete with programs to turn your Amiga floppy drives into 720K IBM compatable drives.
DD85: AnalytiRIM - Tis incredible program is a combination of a powerful spreadsheet and a Relational Information Manager (database). Not for the faint of heart, this is a heavy-duty package! Req. 1 MB RAM.

VIDEO-RELATED DISKS

VO9: 24-Bit - Contains Rend24 which allows you to proof Toaster-generated 24-bit animations. Also contains utils to convert IFF's to IBM VGA/Windows readable format. Also contains latest release of JPEG->IFF converter.
V01: Graphics - Picbase will let you view and track ALL of your IFF pictures over all of those floppies! Freepaint is a Deluxe-Paint workalike. Agraph is a powerful utility to produce snazzy graphs.
V03: Image Utils - let VideoToolsOnTap let you tap into the video power of your Amiga for fades, color and greybars as well as a plethora of other indespensable video functions. TitleGen will do professional crawling titles. JPEG converts JPEG-> IFF with amazing compression. ImageLab performs special effects on IFFs.
VO5: Modelling - Vertex allows you to create 3-D objects without using the abstract X, Y and Z views. Loads Sculpt-3D/4D, Turbo Silver, Imagine, LightWave, GEO and Wavefront formats. MagicTween will metamorphasize any two pictures by automatically animate the "in-between" frames.
VO6: Modelling Objects - Contains 20 vector objects in Imagine format. These are perfect for use with VO5 or your favorite 3D modelling program. Includes Amiga 3000, space station & many more!
VO7: StarTrek Objects - Contains the USS Reliant, NCC-1701D (the Enterprise from Star Trek:TNG) and a Ferengi Marauder ship. Also contains a fully detailed Porsche 911 and Apache Attack Helicopter. Imagine format.
VO8: CompuGraphic Fonts - Contains 2 clipart-style fonts and 4 actual typefaces for use with WB2.04 and it's Fountain utility. Great for desktop publishing and/or video projects.

DEALER INQUIRIES AND SUBMISSIONS WELCOME.

Please send me the following disks:

Enter disk ID (Example: DD79, FD57, WB105)

Total disks ___ @ $____ ea. = $______
Disk based catalog ($2.50) = $______
(Catalog disk comes with a coupon for a free disk with your next order)
Anti-Virus ($19.95) = $______
KAO Blank Disks #____ = $______
CA Residents add 7.75% sales tax = $______
Foreign Shipping = $______
Handling = $ 3.00
Total Due = $______

CC# ______________ Exp ______
Signature ______________
Name ______________
Address ______________
City ______________ ST ____ Zip ______
Phone (____)______________

[ ] Payment enclosed
Please charge my:
[ ] Visa
[ ] Mastercard
[ ] Discover

Following day shipping in most cases. No shipping charges within USA. Canada add $.25 each, Foreign add $.50 per disk for air mail delivery. Payment in US funds only. **A minimum of $20.00 required on all credit card orders.**

DevWare, 12520 Kirkham Court, Suite 1-AW34, Poway, CA 92064
Orders Only Please! (800) 879-0759 **Support** (619) 679-2825 **Fax** (619) 679-2887

Index to 1992 Articles and Reviews

Editor's note: Individual entries in this index are presented alphabetically under two major headings: Articles/Columns and Reviews. Articles/Columns are organized alphabetically under the following subject categories:

- CD-ROM/CDTV
- Cross-Platform Compatibility
- Desktop Publishing
- Games
- Graphics/Animation
- Hardware: Systems/Expansion/Peripherals
- Multimedia/Authoring Systems
- Music/Sound
- Operating System/Workbench
- Printers/Printing
- Productivity/Business
- Profiles
- Programming
- Telecommunications/Networking
- Video

Reviews are organized alphabetically under the categories of Hardware, Software, and Games. SI refers to the Desktop Video and Animation Special Issue.

ARTICLES/COLUMNS

The Power of One (Single-Floppy Systems)	Hays	Sep	37
The Ultimate Amiga	Wallace	Aug	25

MULTIMEDIA/AUTHORING SYSTEMS

TITLE	AUTHOR	ISSUE	PAGE
"Directing" a New Script	Hagen	Mar	37
The Production Line	Edgar	Mar	29
Touch...and Go! (MM Software)	Williams	Mar	24

MUSIC/SOUND

TITLE	AUTHOR	ISSUE	PAGE
Anatomy of a MIDI Studio	Quinzi	Apr	37
Be Bach in a Moment? (Music for Nonmusicians)	Hanish	Apr	31
"Sampling" the Future of Sound	Lindstrom	Apr	26

OPERATING SYSTEM/WORKBENCH

TITLE	AUTHOR	ISSUE	PAGE
A Brand-New Bench—I (2.0)	Leemon	Apr	46
A Brand-New Bench—II (2.0)	Leemon	May	42
Digging into DOS—1 (2.0)	Leemon	Nov	47
Digging into DOS—2 (2.0)	Leemon	Dec	43

PRINTERS/PRINTING

TITLE	AUTHOR	ISSUE	PAGE
Dusting for "Prints"	Johnson	May	33
Pump Up Your Output	Kevelson	Jan	47

PRODUCTIVITY/BUSINESS

TITLE	AUTHOR	ISSUE	PAGE
AW Experts' Choice Awards		Jan	28
Getting Your Ducks in a Row (Database Tips)	Lovhaug	Jan	45
Investment Software	Ludwick	Jul	46
Prepare to Meet Thy Auditor	Ludwick	Feb	55

PROFILES

TITLE	AUTHOR	ISSUE	PAGE
Everrett Burrell	Jarvela	SI	36
"Clarissa" (Derek Grime)	Barney	SI	68
Kelly Day	Barney	SI	63
Stephen Menzies	Gefvert	Sep	32
"Nick Arcade"	Wallace	SI	16
Tim Wilson	Barney/Sullivan	SI	128

PROGRAMMING

TITLE	AUTHOR	ISSUE	PAGE
Know Your Rights	Giguere	Nov	39
Math Spoken Here	Weinstein	Aug	29
The ARexx Interview	Stockton	Dec	55

TELECOMMUNICATIONS/NETWORKING

TITLE	AUTHOR	ISSUE	PAGE
Dialing for (Less) Dollars	Walsh	Jan	39

VIDEO

TITLE	AUTHOR	ISSUE	PAGE
Basic Videographics	Hurteau	SI	17
Blueprint for Successful Video	Hedlund	Oct	32
Buyer's Guide to Video and Animation Utilities	Sands/Williams	SI	113
Cue the Credits (Titling Programs)	Blaize	SI	103
Digital Splice (Edit Controllers)	Strickland	SI	85
Frames of Reference (Time Code)	Strickland	SI	27
Learning Your Edit A/B and Cs	Nealy	SI	22

►

VECTOR

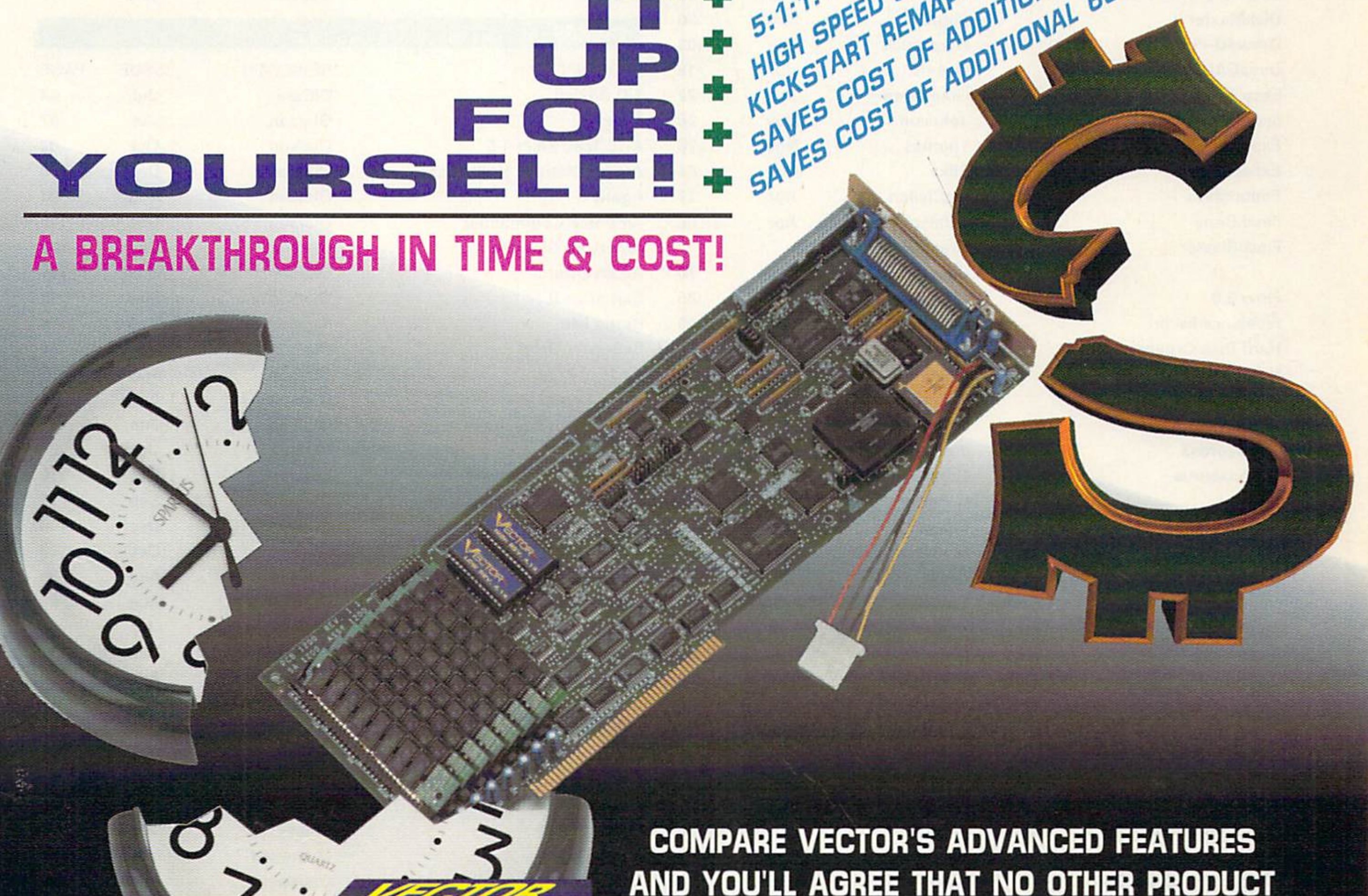
FEATURING PRO-PLEX, A PRICE/PERFORMANCE BREAKTHROUGH THAT ALLOWS VECTOR'S ON BOARD SCSI AND RAM TO BE ACCESSIBLE BY BOTH THE 68000 AND THE 030.

THE THIRD GENERATION 68030 PROCESSOR ACCELERATOR

ADD IT UP FOR YOURSELF!

- SOFTWARE CONFIGURABLE
- UP TO 32 MBYTES 32 BIT RAM
- 5:1:1:1 BURST INTERLEAVED RAM
- HIGH SPEED SCSI/SCSI-2 INTERFACED
- KICKSTART REMAP INTO 32 BIT RAM
- SAVES COST OF ADDITIONAL 68000 RAM
- SAVES COST OF ADDITIONAL 68000 SCSI INTERFACE

A BREAKTHROUGH IN TIME & COST!



COMPARE VECTOR'S ADVANCED FEATURES AND YOU'LL AGREE THAT NO OTHER PRODUCT MATCHES IT'S FUNCTIONALITY

	VECTOR	[illegible]	G-FORCE	MEGA MIDGET	CBM2630
ON BOARD MEMORY EXPANSION USING INDUSTRY STANDARD SIMMS	✓				
SCSI-SHARE NETWORKING	✓				
ON BOARD SCSI ACCESSIBLE BY 68000	✓		✓		
BUILT IN SCSI CONTROLLER	✓		✓	✓	✓
ON BOARD 32 BIT RAM EXPANSION	✓				
ON BOARD RAM ACCESSIBLE BY 68000	✓				
ON BOARD MEMORY TO 32 MBYTES	✓				
SOCKETED 68030/68EC030 CPU	✓	✓	✓	✓	✓
SOCKETED 68882 MATH COPRO	✓	✓	✓	✓	✓
25 MHZ CPU SPEED	✓	✓	✓	✓	✓
33 MHZ CPU SPEED	✓			✓	
40 MHZ CPU SPEED	✓	✓	✓	✓	
2630 COMPATIBLE EXPANSION PORT	✓				✓

Circle 66 on the Reader Service card

INTERACTIVE VIDEO SYSTEMS 7245 Garden Grove Blvd., Suite E • Garden Grove • CA 92641 • 714-890-7040 • Fax 714-898-0858 • Customer Support BBS 714-898-2822

GAMES

►

InfoMarket

REWARD !!!

Yourself with these specials from **BETTER CONCEPTS, INC.**
XTRACTOR+™, amazing 3 tools in one. Combination chip puller, both PLCC and DIP, with Torx screwdriver.
Only tool like it on the market. Special introductory price....$12.95
QWIKA SWITCHA IV C-lect-a ROM - Switch from 1.3 to 2.0.
Additional 2 sockets for future use included. Only $32.95
Call today.. B.C.I. for all your AMIGA needs 1-800-25-AMIGA
BETTER CONCEPTS, INC., 22 North Main St., Suite 393, New City, NY 10956
Dealer Inquiries Welcome

Circle 151 On Reader Service Card.

LIQUIDATIONS & BARGAINS

If you think you can't afford quality commercial software ... think again! Although we carry the top 100 software hits and a full line of accessories for your AMIGA, we specialize in closeouts and liquidations. Let us do the bargain hunting for you! Find out why thousands of computer users choose us as their one stop supplier.
We publish one of the best catalogs in the industry. Call or write for your free copy!

SOFTWARE SUPPORT

Software Support Int.
2700 N.E. Andresen Rd.
Suite #A-10
Vancouver Wa 98661
(206) 695-1393
AMIGA - C64/128 - IBM

CALL TOLL FREE TODAY!
1-800-356-1179
Major Credit Cards Accepted.

Circle 192 On Reader Service Card.

X-Pander Built Chassis

upgrade & expand A500/1000
Slots, Power, Drive bays, more

CeV Design
61 Clewley Road
Medford, MA 02155
617-391-9224

4 Models to choose from, built to accommodate users' requests. Slots can passthru on 2 Models & All use true A2000 Zorro cards. **$129-$279.**

Budget Prices on Hardware/ Software - Call

CeV also can imageslides or Prints - $15. Creators of Video Visions: Wedding Art for Video -$70.

Allows liberal Trade-In Policy -Call for Details.

Circle 158 On Reader Service Card.

COMMODORE AMIGA SERVICE CENTER

AMIGA 500 (Repair) $75.00 *Call for details

We service the entire Amiga product line and carry replacement parts & power supplies. Call for prices.

FREE ESTIMATES

A&M Computer Repair • 24 Colonel Conklin Dr.
Stony Point, New York 10980 • (914) 947-3522
24 Hour Turnaround • Dealers Call For FREE Catalog
1-800-344-4102 FAX: 1-914-947-2728

Circle 190 On Reader Service Card.

ULTRA HIGH RESOLUTION

4x5 COLOR TRANSPARENCIES and 35mm COLOR SLIDES

from COLOR POSTSCRIPT • 24-BIT IFF • HAM • Standard IFF

• Over 4000-line Resolution • NO Scanlines • NO Curvature Distortion • Brilliant Color

HAMMOND PHOTOGRAPHIC SERVICES
(310) 390-3010

Call or Write for order form, price list & sample:
11280 Washington Place
Culver City, California 90230

JUMPDISK: The $5 Try-It!



The Original Disk Magazine for the Amiga. **Try our newest issue for $5.** For nearly seven years we've published a monthly disk filled with new programs, art, music, news, tutorials, tips and more. We're all Amiga, only Amiga. Questions? Call (916) 343-7658
Order: JUMPDISK - 1493 Mt. View Ave - Chico, CA 95926.
Californians, add 36 cents for sales tax. Everyone: Write "I read the fine print" on your order and we'll include a second disk of programs at no extra charge!

Circle 98 On Reader Service Card.

KASARA MICRO SYSTEMS 1-800-248-2983 • 803-681-5515

Now the only source you will need for your Commodore product requirements. We have been your AUTHORIZED source for more than a DECADE of quality service.

COMPETITIVE prices on NEW or USED CPUs & accessories, upgrades, replacement parts & assemblies

SAVE MONEY with our EXCHANGE programs, repair/maintenance services and stock-to-one-week delivery

REDUCE COSTS with our MONTHLY SPECIALS, 90 day warranty on parts/repairs & quantity discounts

Weekday Hours 9:00 AM–6:00 PM EST

IT TECH

Your Canadian Grapevine connection

CSA DERRINGER 25mHz 68030
C$369.95

Progressive A500/040 28mHz/4MG RAM
C$1399.95

Box 467 Bushell Park, SK Canada S0H 0N0
VOICE/FAX: (306) 691-0520
Please call for free catalogue

Circle 197 On Reader Service Card.

MicroMiga

Lowest Prices!!

We carry over 2000 hardware and software titles for the Amiga. We also offer Fred Fish disks for $2.50 each. Ask about our Fred Fish Subscription Plan for $1.50 each. Our low prices, and friendly service will amaze you. Call today!

Accelerators, Educational, Genlocks, Joysticks, Productivity, Business, Floppy Drives, Graphics, Mice, Public-Domain, Chips, Hard Drives, Music/MIDI, DTP, Games, Video

1-800-733-AMIGA
P.O. Box 1898
Spring Valley, CA 91979
Customer Service (619) 670-3161
BBS 3/12/2400bps (619) 670-1095
24hr FAX (619) 670-9732
Call For Pricing or FREE catalog

Circle 183 On Reader Service Card.

The AMIGA Service and Repair Video

This video represents six years of first hand experience repairing the Amiga Computer. Covering everything from basic theory of operation to our special tricks and tips section this video is sure to save you many hours of unproductive diagnostic time. For both the user who would like to understand inner workings of this amazing computer to the experienced technician this video can save you time and money.

Send your check or money order for $39.95
+ $5.00 Shipping & handling

To: J & C Repair
PO Box 70
Rockton PA 15856
Allow 4-6 weeks for delivery

Circle 173 On Reader Service Card.

Foxy Tec. Software

The largest selection of adult software, music mods and preware (previews) found anywhere! A 2-disk adult sampler is available for $7.00 (must sign stating you are over 18). All shipping is free. Write for a FREE catalog today!

Foxy Tec. Software - P.O. Box 2266
Gresham, Oregon 97030

Circle 166 On Reader Service Card.

Fast-RAM PCMCIA FORMAT

For Amiga A600 & A600 HD
2MB & 4MB
1·800·CARDS 4U

NEW MEDIA CORPORATION

Made in U.S.A. Irvine, California U.S.A. (714) 453-0100

Circle 50 On Reader Service Card.

BRiWALL ViDEO

1-800-766-5757
(USA & Canada)

Outside USA: (215) 683-5661 Tech Support: (215) 683-5699
Customer Service: (215) 683-5433 FAX: (215) 683-8567
Order lines are open 24 hours (Briwallians are in 9-8EST)
Store Hours:Monday-Friday 9AM- 6PM, Saturday 10AM-2PM
P.O. BOX 129/58 Noble St., KUTZTOWN, PA 19530

Toaster Solutions

Video Toaster, CBMA2000, 1084s Monitor, 120MB Drive, 8MB RAM

- 7MHz Base System $4199
- IVS 030 -- 25MHz $4899
- $6159 Magnum 44 -- 68040
- $5199 GVP 030 -- 40MHz

Video Toaster, A3000, 1084 & 1960 Monitors, Hard Drive, Memory

- 25MHz Base System $5599
- $6499 68040 -- 28MHz
- $6999 68040 25MHz Tower

A600 Titling, Editing and Animation

- A600 Titling System $1299
- $1559 A600 Editing System
- $2999 A600 Advanced Editing System

We Specialize in "Solutions"

Desktop Video Solutions

Write for our FREE Catalog-On-A-Disk

TBC's
Prime Image
DPS Personal
Kitchen Sync
IDEN
DPS ES220
Hotronics

Genlock/ Chromakey
Rocgen Plus
Supergen 2000s
Omnigen
Supergen
GVP G-Lock
Chromakey Plus
Rockey
Perfect Video Chromakey

Edit Control
Future Video
Amilink CI
Amilink VT
EditMaster
TAO Editizer
Video Director
Personal SFC
BCD 2000
BCD 5000
DQ-Taco

Playrs/ Recorders
Panasonic
AG1960
AG7650
AG7750
Sony
EVO-9800
EVO-9850
EVO-9650
CVD-1000
EVS-3000
BVU-150
JVC
BR-S822U

Acceleration
GVP 030 Combos
35/40/50MHz
GVP 040 G-Force
28MHz
33MHz
Progressive 040
A2000
A500
Zeus 040 28MHz
Magnum40/4 040
28MHz
33MHz
Mercury 040 A3000
CBM2630 030
IVS Vector 030
25/33/40MHz
Derringer 030

Storage
DMI Floptical
Xetec CD-ROM
Removable
Syquest
44MB
88MB
Ricoh 50MB
Magneto/Optical
Ricoh 640MB
Ricoh 128MB
Maxtor Tahiti II
1GIG
Maxtor SCSI
120/213MB
340/535/676MB
Maxtor Panther
1.2GIG
1.5GIG
Toshiba 3.5"
877MB
1.2GIG

Other
Flicker Free Video 2
Knox Blackburst
GVP Impactvision
Polaroid Freeze Frame
Firecracker 2400
Magni Monitor
Sharp Scanners
JX320/450/600
Breadboard VDA
Video Toaster
Sony XVD300
DPS V-Scope
DMI Resolver
Edit Master
AMAX Plus
OpalVision
DPS VDA
Vivid 24
DCTV



Complete Installation and Testing are Free Services at Briwall Video

Caligari
The leading real-time 3D modeler, animator and renderer. Chose **Caligari Broadcast** or **Caligari2** to fit your needs and budget.

Magnum 40/4
CSA's Magnum 40/4 combines a 68040, SCSI-2 controller, 32MB RAM board, high-speed parallel port and serial port, all in one elegant solution.

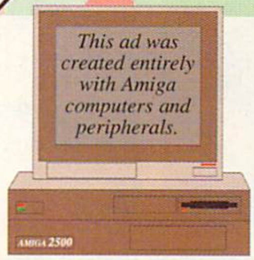
Morph Plus
(From ASDG)
True cinematic quality morphing for the Amiga! That means fast, high quality, easy morphing for your video needs.

EditMaster
DMI has thrust the Amiga head-on into the non-linear editing market with their Digital EditMaster system. Real-time video capture to hard drive and playback are just the start of this amazing solution.

GVP's IV24
GVP has upgraded this excellent product with new bundled software, including **Desktop Darkroom** for image processing, **MyLAD** with a 3-signal, 2-input switcher and 50 transitions, and a new improved version of **MacroPaint**.



Our Solutions are Always Factory Fresh, Fully-Installed and Tested.



SOFTWARE

3D Pro v2.0	239	ProVideo CG II	129
Art Dept. Pro	179	RasterLink	119
Broadcast Titler 2	229	Real 3D TurboPro	259
Caligari2	269	Scala Multimedia 2.0	299
CineMorph	115	Showmaker	229
DeluxePaint IV AGA	135	TV Text Pro	99
Aladdin 4D	299	ToasterVision	145
FractalPro v5.0	99	Toaster Toolkit	139
ImageMaster Pro	145	TRexx Pro	79
Imagine v2.0	279	Transporter	159
Pixel 3D Pro	159	Morph Plus	185
Playmation	379	WipeMaster	129

Any Visa or MasterCard accepted with NO surcharge. Hardware shipping charges vary depending on weight and value. Software shipping charges are $6.00 per total order via UPS Ground to anywhere in the continental USA. All orders over $300 are insured at the customer's expense. All returns require an RA#. Please call before returning anything. All refunds are subject to a usage fee. Ad prices are subject to change without notice.

Federal Express Charges for all orders under 20 pounds; 2nd Day Delivery -- $13; Next Day Delivery -- $17. Canadian and Overseas customers are shipped DHL. Call for rates.

Circle 7 on Reader Service card.

VIDEOS BECOMING MOST POPULAR WAY TO LEARN ABOUT AMIGA TECHNOLOGY

NEW SAVINGS MAKE VIDEO EVEN MORE POPULAR!

Discover the exciting world of the Amiga, desktop video, graphics, music and more with these exciting videos from Razza Video USA. Join the thousands of Amiga owners who have benefited from these informative and entertaining videos. Now, with these new and exciting package deals, you'll get more valuable information, interviews, tips and tricks than ever before. Pick from five packages or order individually. Either way, you'll benefit from the action packed content of each Amiga-based video. Get the latest update on the Video Toaster from NewTek, learn about Music and MIDI, discover the exciting world of desktop video and graphics, or just learn about the Amiga and how to use it. Whatever your interests, we have a video that will make your computing experience more rewarding, interesting and fun.

SOLUTION #1: DESKTOP PRODUCER PACKAGE

From getting started to completing a finished product, these two videos can make your desktop video career take off. Learn about tape formats, how to shoot with a camera, editing tips and tricks, and how to use the Video Toaster from NewTek.

INCLUDES 3 VIDEOS: Desktop Video Vol. 1 & 2; Video Toaster Video, 2nd Edition.

~~RETAIL $84.85~~ **YOUR PRICE $58.88** (SAVE MORE THAN $25.00)

SOLUTION #2: AMIGA INTRO PACKAGE

Get the facts on getting started: Setup, Workbench, Shell, CLI, expansion, startup-sequences and more... Learn about AmigaVision, AmigaDOS 2.0 and expanding the Amiga with powerful and useful peripherals. Includes the latest peripheral updates and how to increase the speed of your Amiga.

INCLUDES 2 VIDEOS: The Amiga Primer and Hot Rod Your Amiga

~~RETAIL $44.90~~ **YOUR PRICE $31.69** (SAVE MORE THAN 30%)

SOLUTION #3: AMIGA MUSIC PACKAGE

This new for 1993 edition brings you the most up-to-date music and MIDI data, including using your Amiga as a music generator or MIDI device! Features SuperJAM!, Bars & Pipes Professional, Dr. T's, Sonix, Deluxe Music, AudioMaster and others.

INCLUDES 1 NEW FOR 1993 VIDEO: The Magic of Music & MIDI

~~RETAIL $29.95~~ **YOUR PRICE $19.88** (SAVE MORE THAN $10.00)

CALL NOW TOLL FREE!

1-800-995-8373

8:00 AM to 6:00 PM P.S.T.

For customer service, Canadian and foreign orders please call

1-805-251-2223

FAX your order 24 hours a day

1-805-251-8584

VISA MasterCard DISCOVER

Shipping is extra.
(California residents add appropriate sales tax)

SOLUTION #4: GRAPHICS & ANIMATION PACKAGE

Discover the ethics of style and how to use the Amiga for graphics. These videos feature Deluxe Paint IV, NewTek products, Kara Fonts, DCTV, and include specific advanced techniques and inside tips and tricks from experts. Also includes interviews with some of the best known artists in the Amiga community.

INCLUDES 2 VIDEOS: Amiga Graphics, Vol. 1 & Desktop Video, Vol. 2

~~RETAIL $44.90~~ **YOUR PRICE $31.69** (SAVE MORE THAN 30%)

PRODUCER OF AWARD WINNING VIDEOS

NO READING REQUIRED • RAZZA VIDEO USA

SOLUTION #5: AMIGA VIDEO PRODUCTION PACKAGE

Including the latest version of the award winning Video Toaster Video, this package takes you through the entire production process and features the Video Toaster, Ami-Link editing software, camera techniques, specific video excercises you can use when producing your own videos and much, much more. As an added bonus, learn how the Apple Macintosh can be used for desktop video applications and get a preview of what QuickTime is all about.

INCLUDES 2 NEW FOR 1993 VIDEOS: The Video Toaster Video, 2nd Edition; Desktop Video, Master's Edition

~~RETAIL $59.90~~ **YOUR PRICE $35.88** (SAVE MORE THAN $25.00)

RAZZA VIDEO



If you don't see what you want in our popular video packages – pick individual titles here. As a special bonus, take $5.00 off the price of any video's suggested retail price!

BRiWALL Mailorder

The Total Solution
1-800-766-5757

DMI Flopticals
Don't be fooled by others!

DMI offers a complete Amiga solution. You just add it to your system like any other hard drive, and you've got low-cost storage at $1/MB. Comes complete with an Insite floptical drive, 20MB disk, DMI's Amiga driver, cabling, and a free copy of Quarterback! All you supply is the SCSI controller.

Internal $399
External $499

(External unit includes a 110/220VAC auto-switching power supply)

CSA's Magnum 40/4
For the serious A2000 user, nothing beats the Magnum 40/4

68040/28-33MHz, 32MB 32-bit memory capacity (4MB of RAM included), SCSI-2 controller, optional high-speed Parallel and Serial ports, all designed into one beautiful board.

Call for Special Pricing

CSA's Derringer Board
CSA's new 25MHz 68030-based accelerator for the A500/2000. Up to 32MB RAM and 50MHz 68882. Starting as low as $499 (with 68881 and 4MB of RAM)

DKB Megachip 500/2000
Expand your Amiga's graphics capacity to 2MB of chip Ram! You need Megachip to get it into your Amiga 500 or 2000, (sorry 1000's). New, smaller version is compatible with all motherboard revisions and configurations.

Megachip 2000 or 500 w/2MB Agnus -- $279
(Please specify NTSC or PAL)

A1000 Owners!

Internal 3.5" Floppy	$89
AdSpeed	$189
Insider 2	$169
DataflyerRAM w/2MB	$289
DataFlyer w/120MB	$559
FastTrak SCSI Controller	$199
Phoenix Board	$850
KwikStart II	$62
Keyboard	$99

Great Christmas Presents

Under $60

Speedline Analog Joystick	$19
Safeskin Keyboard covers	$19
25 3.5" Diskettes	$20
Pinball Dreams	$27
Maverick v4.0 copier	$28
Ami..Alignment drive utility	$29
Mouse/Joystick switchbox	$29
Lemmings	$32
Any Carmen SanDiego	$33
World Atlas 2.5	$38
Fighter Dual Pro	$39
Gravis Joystick	$39
Opus (directory utility)	$39
Amiback v2.0	$45
Pelican Press	$59
CBM DOS upgrade to 2.1	$59

Under $200

Boing! Optical Mouse	$79
100 3.5" Diskettes	$79
Roctec Ultralite Floppy	$89
CBM ROM 2.1 w/manuals	$89
Super Jam!	$89
Rom Kernal Manual set	$99
DeluxePaint IV	$109
SupraFAX Modem Plus	$139
Pixel 3D Pro	$159
Karaoke for CDTV	$189
UPS 400VA	$199
Golden Image Hand Scanner	$199
Citizen GSX200 Printer	$199

Under $800

SupraFAX Modem v.32bis	$299
RocGen genlock	$299
DCTV	$399
Miracle Keyboard	$399
GVP Phone Pak/s	$429
Derringer 68030 w/4MB	$499
Syquest 44MB External	$499
DataFlyer SCSI + 120MB Hard drive	
For the A2000	$439
For the A500	$499
For the A1000	$559
AD1012 w/Studio16	$539
Floptical External drive	$499
Xetec CD ROM external	$599
Archive 250MB Tape external	$629
Vortex 386 Bridgeboard	$629
HP Deskjet 550	$799

Free Bonus!
Christmas Song disk **free** with any order placed from this shopping list by December 25, 1992.

CBM & DKB
Now add Speed and Memory

CBM2630 (68030/25MHz) board with 4MB of 32-bit RAM.
Our low price $629

Add DKB's 2632 32-bit RAM daughter board with up to 128MB of 32-bit memory!
4MB--$429 8MB--$579

We thought you'd like to know that we:
- Test and Format your Hard Drive
- Test and Install your Memory
- Burn-in your Computer
- Burn-in your Monitor
- Customize & Configure your System Purchase
- Offer Memory trade-ins

Vortex 386sx and 486slc PC/AT Boards
Hot new **Golden Gate** PC/AT emulators for the Amiga. They are bridge-slot boards with up to 16MB of RAM, and share the Amiga's drives, RAM (!), serial port and parallel port. Call for more details on these exciting boards! MS-DOS not included.

386sx Price -- $629
(We'll install additional memory!)

Addison-Wesley ROM Kernal manuals (2.04)
Libraries, Devices, Hardware, Includes, & Intuition Style Guide

Get ALL 5 for $99!

Progressive Peripherals
The original low-cost 28MHz 68040 accelerator for A2000 owners who already own a SCSI controller. Expandable to 32MB.

Call for low Price!

ROCTEC RocGen/RocKey Video Combo
New Upgrade

With the RocGen Plus Genlock and RocKey Chromakey, you can add a whole new dimension by bringing high quality studio effects to your desktop video production.

RocGen $299 RocKey $299
Special Combo Price -- $539

Gold Disk
VideoDirector



- Complete Video Editing System for everyone with a camcorder, VCR and an Amiga!
- Quickly and easily catalog and edit the best moments from your video tapes!
- Includes hardware to control most camcorders and VCR's!

Only $149!

Can't Decide On a Gift?
Ask us about Briwall Gift Certificates!

UNLEASH THE POWER!
The Publising Team with the Genie Edge
Buy the Bundle & Save a Bundle
Get Both for Only $219.00!

PROFESSIONAL DRAW 3.0 $129.00 **PROFESSIONAL PAGE 3.0 $179.00**



Syquest Drives

44MB w/Cartridge	$399
88MB w/Cartridge	$519

Maxtor MANIA
Great Prices on Great Drives!

From 120MB to 1.7GB...the highest quality drives with the lowest cost per MB. **Call for comparisons!**

DATAFLYER *from Expansion Systems*
Choices and More Choices! Fast, Reliable, and Flexible; all boards are A500/1000/2000 compatible.

SCSI Controller	$79	IDE Controller	$75
A500 Case	$79	A1000 Case	$129
RAM Board	$99		

DATAFLYER Express

DataFlyer Express for the A500 combines a SCSI or IDE controller with up to 8MB memory in a single affordable case.

SCSI w/120MB drive & 2MB $659
(call for other configurations)

No, we don't have a lot of line listings...but who can read that tiny type anyway? Just call us at 1-800-766-5757 and let one of our Sales Consultants help you! We specialize in 'Solutions', and carry all of the good stuff. If you want a complete listing of everything we carry, packed with product descriptions, just write for a FREE copy of our Catalog-On-A-Disk! See our previous page for additional ordering and shipping information.

Briwall -- P.O. Box 129/58 Noble Street -- Kutztown, PA -- 19530

Circle 7 on Reader Service card.

THE LAST WORD

Kudos, complaints, comments, concerns, and contributions from our readers.

TIME FOR AMIGA FEVER

It was interesting to see in *Time* magazine's special issue on "Beyond the Year 2000: What to expect in the New Millennium" that the only computer pictured in the magazine outside of the advertisements—all the ads were by IBM, the issue's sole advertiser—was the Amiga. Science-fiction master Arthur C. Clarke, the author of *2001: A Space Odyssey*, was pictured at his home in Sri Lanka beside an Amiga with an image of Mars on its screen. Even better, there was an "Amiga Fever" sticker visible in the photo on the window behind Clarke and the Amiga monitor.

Lars-Erik Olson
Avenel, New Jersey

IS MY A3000 AN EDSEL?

I bought an A3000 in the summer of 1990 because I thought it was the upcoming thing. Now, few ads in *AW* ever mention the 3000. Do I have an oddball computer? Can I expect more support and software?

John Weissman
Orange, California

POSITIVE UPGRADE

Gold Disk, ASDG and RCS (Fusion Forty) are the only Amiga companies I've come across who, in operating a positive upgrade policy of contacting customers about upgrades, demonstrate the value of sending in a product registration card. Thanks, folks.

I also want to compliment Gold Disk for their prompt, courteous service: When I upgraded Professional Page and Professional Draw, the packages got lost in the Canadian postal service. One quick phone call to Gold Disk brought replacements immediately, free of charge.

Keith Hunter
Aberdeenshire, Scotland

AND NOW, A WORD FROM OUR...GURU

Saturday morning, sleeping in. As I slowly awake, I turn on the TV with the remote. I stop at the Preview channel, and I see incomprehensible numbers... a red border...it's a *Guru message!* In my sleepy stupor I struggle in bewilderment to separate dream from reality: A Guru message on television? Did I leave my computer on? Is it cross-talking with my TV? Did an Amiga take over the broadcasting system (or the world) and then...crash? (I read science fiction.) Is someone playing a joke on me? Am I on...*Candid Camera*?

A Guru message on television? Did an Amiga take over the broadcasting system (or the world) and then...crash?

As waking reality brings the world into focus, I realize that the Preview channel's display must have been generated on an Amiga, and that someone there must have mistakenly taped a Guru message and played it over the cable. Or, maybe it was an inside joke for Amiga owners. Anyway, sometimes the truth *is* stranger than fiction.

John Hobbs
Fresno, California

THE GREAT 4000 HOPE

As a professional model-builder for the French industry of railway transport, I wanted a computer that had great potential for CAD applications and was priced reasonably. I took a chance on the A2000. I then watched the Amiga become specialized on the low end in games and on the high end in video and 3-D. I have struggled to build my work around the Amiga, but the lack of professional software has dampened my enthusiasm.

Support from Commodore has been nil in France; it depends solely on the passion and concern of dealers. I keep my confidence, though, in what I consider the best computer in the world, and with the arrival of the A4000, I hope for more support for professionals, and a development of the market of professional Amiga software.

Guy Jourdan
Montelimar, France

IBM XT-ON-A-DISK

I know you will eventually review CrossPC, but I thought you might be interested in a reader's opinion of it. I use an IBM clone at work and had considered dumping my Amiga for a clone so I could take work home. Since I bought CrossPC, however, such thoughts have disappeared. CrossPC is serious software: It's a stable, multitasking, software-based IBM XT clone. I created a partition on my A3000 hard drive for CrossPC and use it for DOS and the PC word processor I use at work. I can start projects at home and complete them at work, or vice-versa, without *any* compatibility problems. I've found CrossPC more stable than the clone I use at the office.

The only down side is CrossPC's speed. With my 25-megahertz 68030, it is just acceptable. On the other hand, I have yet to see a PC clone advertised for $40, which is the retail price of CrossPC!

Jeffrey T. Powell
West Covina, California

*Great minds **do** think alike: See our review of CrossDOS 5.0 Plus CrossPC on page 78 in this issue's Review section. —Eds.* ■

VIDEO TOASTER™ 2.0



Digital Video Effects
Real-time digital video effects on live video. From flip, spin and tumble to high-end warping effects.



35ns Character Generator
Scroll, crawl and key professional-quality titles over live video and still images or warp, peel, and spin titles with digital effects.

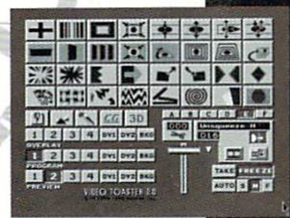


24-bit Broadcast Paint
Create 16 million color images with powerful tools for drawing, tinting, blending, colorizing and warping images.



3D Animation
LightWave 3D is a complete animation system that creates high-resolution 24-bit color images with incredible speed and quality.

4 Input Production Switcher
Perform cuts, fades and wipes between 4 video inputs and 3 internal sources. Now includes amazing new transitions such as fire, liquid and breaking glass.





Dual Frame Buffers
Hold two high-resolution 16 million color video frames in perfect broadcast quality.





Luminance Key
More than just simple weatherman over a map, Toaster keying does luminance fade transitions and even key-based digital trails.



Color Processing
Re-color live video or alter brightness and contrast. Effects include sepia-toning, color-negatives, day-for-night, chrome and more.



Still Store / Frame Grabber
Freeze flawless broadcast resolution images instantly and recall them as sources for the switcher and digital video effects.

9 essential tools you need if you'r[e] using your Amiga for video or graphics.

The Video Toaster is the world's first all-in-one broadcast-quality video production studio. It's giving everyone from desktop producers to network producers the power of a hig[h-]end production studio on a desktop. You've seen the award-winning Toaster used on network television, now you can add th[e] same level of quality and excitement to your videos. Find out why everyone from Time and USA Toda[y] to Business Week and Rolling Stone i[s] raving about the Toaster, call for your free Video Toaster tape today.

Complete systems starting at $4595. Outside North America call 612-882-1662. Demo also available on S-VHS, Hi8, 3/4", MII, Betacam, 1", LaserDisc and D2 at nominal cost. Next-day delivery available. Price and specifications subject to change. Video Toaster, Lightwave 3D and ToasterPaint are trademarks of NewTek, Inc.

Free Toaster™ Video Tape

Call 800-765-3406

NEWTEK INCORPORATED

Circle 37 on Reader Service card.